MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
National Aviation University
Educational and Research Humanities Institute
Foreign Languages and Applied Linguistics Department

APPROVED
Acting Rector

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SYLLABUS

on

"Foreign Language for Specific Purpose"

Field of study: 15 "Automation and Instrumentation"
Speciality: 151 "Automation and Computer-integrated Technologies"
Specialization: "Computer-integrated Technological Processes of Production"

Year of Study – 2nd, 3rd Semester – 3rd, 4th, 5th, 6th

Classroom Sessions   – 134   Graded Test   – 3rd, 4th, 5th, 6th semester
Self-study   – 106
Total (hours/ ECTS credits) – 240/8

Index CB-14-151/16-3.1

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The Syllabus on "Foreign Language for Specific Purpose" is based on the educational and professional program and Bachelor Curriculum № CB-14-151/16 for Speciality 151 "Automation and Computer-integrated Technologies", Specialization "Computer-integrated Technological Processes of Production" and correspondent normative documents.

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Discussed and approved by the Graduate Department for the Speciality 151"Automation and Computer-integrated Technologies" and Specialization "Computer-integrated Technological Processes of Production" – Department of Aviation Computer-integrated Complexes, Minutes № ____ of "___"_____2017.

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Document level – 3b
The planned term between the revisions – 1 year
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1. EXPLANATORY NOTES

The Syllabus on the subject "Foreign Language for Specific Purpose" is developed on the basis of "Methodical instructions for development and preparation of a syllabus and a course training program of subjects" adopted on 16.06.2015 by №37/order.

Teaching English is of great importance in the higher educational system of Ukraine. Being directed on communication and linked with social and special subjects the subject "Foreign Language for Specific Purpose" makes significant contribution into the education of young people.

Learning profession-oriented foreign language is an integral part of students' preparing for the transition from learning a foreign language as a subject to its practical use for the professional purpose.

The objective of teaching "Foreign Language for Specific Purpose" for students of the speciality 151 "Automation and Computer-integrated Technologies" is step-by-step formation of the main components of students' professional foreign language competence, namely:

• *linguistic competence*: development and improvement of basic knowledge of the phonetic, lexical, grammatical and spelling system of a foreign language and the ability to apply them skillfully in the production of their own utterances;

• *communicative competence*: improvement of speaking skills (monologue and dialogue speech), listening, reading and writing (writing of different types of written assignments to the topics of modules); the ability to use the linguistic material to achieve communicative, informative, cognitive and other goals;

• *sociolinguistic competence*: the ability to understand, choose and use language forms that are in line with the context of foreign communication, and transform them according to the needs;

• *sociocultural competence*: knowledge of the peculiarities of foreign-language professional communication in the field of construction, development of the ability to build the speech behaviour in accordance with the sociocultural specific character of the country the language of which students study;

• *strategic competence*: the ability to participate in foreign language communication, choosing the proper strategy of discourse, as well as an adequate strategy for improving the effectiveness of this communication;

• *professional competence*: the ability to set and solve applied professional tasks by means of a foreign language according to up-to-date professional requirements; the ability to continuous self-education and self-development.

The tasks of mastering the subject are the following:
– to learn professional terminology and everyday English words;
– to be able to comprehend the content of the original scientific texts and profession-oriented technical texts, obtain the necessary information from them, interpret and translate in the process of learning;

– to understand recorded and live foreign speech;
– to be able to communicate within the learnt topic in the form of monologue, dialogue and polylogue speech.

After studying the subject "Foreign Language for Specific Purpose" the student has to:
Know:
– basic professional terminology;
– main grammar and lexical features of translation of technical literature;
– main rules of handling scientific and technical literature;
– word-building morphemes and models, particularly in the area of terminology building;
– main grammar structures, correlation of their forms and meanings;
– linguistic clichés typical for scientific and technical literature.
Be able:
– to read and comprehend the authentic literature, including literature on the specialty, to obtain the necessary information;
– to participate in discussion;
– to understand oral speech on the basis of the learnt material;
– to make reports on professional and social and political topics and the topics defined by this syllabus;
– to render information obtained while reading both in foreign and native languages (in oral and written forms);
– to analyze grammar structures and correlate their forms and their meanings while reading and translating texts.

The teaching material of the subject is structured in a modular manner and consists of four training modules, including:
– training **module №1 "Modern Technologies. The Internet",**
– training **module №2 "Biometrics. Biometric Devices",**
– training **module №3 "Artificial Intelligent",**
– training **module №4 "Computer Viruses. Antivirus Programmes "**, which are logically complete, relatively independent, integral part of the curriculum, learning of which provides for the module test and the analysis of its implementation.

The subject "Foreign Language for Specific Purpose" is based on the knowledge of the following subjects: "Foreign Language", "Physics", "Higher Mathematics", "Computer Technologies and Programming", "Electrical Engineering and Electromechanics", and others.

2. SUBJECT CONTENT

2.1. Module №1 "Modern Technologies. The Internet"
Topic 2.1.1. The Internet's History
The Internet's History. The origin of its name

Topic 2.1.2. WWW and the Internet
The network as a collection of computers connected together
Topic 2.1.3. The global network in modern life
The global network as a data storage: millions of electronic documents of the global network as a whole
Topic 2.1.4 The Internet and education. WIKI sites
Wikipedia as a heart of information
Topic 2.1.5. Web engines, web sites, web pages, web servers
The definitions of the terms "web engines"," web sites"," web pages"," web servers". Their functions and classifications
Topic 2.1.6. Modern technologies in our life
The influence of modern technologies on the life, technological achievements, disadvantages and problems connected with technological development
Topic 2.1.7. Hi-tech and the Internet technologies
The history of hi-tech, hi-tech spheres, innovations' implementation
Topic 2.1.8. Robototechnics and atomic energetic
Topic 2.1.9. Aircraft building and space crafting as the component of hi-techs
Topic 2.1.10. Data. Informatics. Information technologies
The meaning of these terms. Interconnection between them
 Topic 2.1.11. Data. Informatics. Information technologies
Topic 2.1.12. Information technologies and data products
Software, database, databank and so on. General characteristics of data products
Topic 2.1.13. Architecture of DBMS
DBMS's main characteristics, its possibility and architecture
Topic 2.1.14. Software for data processing
Operations with data (collection, input, record, transformation, reading, storage, deleting, registration) and data translation through the communication channels
Topic 2.1.15. Scientific Software
Computer linguistics, mathematic software, physics software and others

2.2. Module № 2 "Biometrics. Biometric Devices"
Topic 2.2.1. Biometrics
The main functions of biometrics: recognition and registration
Topic 2.2.2. Biometrical systems
Biometrical systems of recognition, two ways of personal diametric recognition – verification and identification
Topic 2.2.3. Biometrical systems of data protection
Modern biometrical systems of data protection, abilities of modern biometrical systems, methods of biometrical systems of data protection and their structure
Topic 2.2.4. Biometrical scanner
The general-purpose biometrical scanner, its main functions and abilities
Topic 2.2.5. Biometrical identification

Advantages of biometrical technologies. The main disadvantage of biometrical identification

Тема 2.2.6. Biometrical identification and its static methods

The most popular biometrical identification method with the usage of the finger print, palm shape, veins location on the back of the hand, retina, iridial part of retina, facial shape and so on

Тема 2.2.7. Biometrical identification and its dynamic methods

Dynamics characteristics of the person, handwriting, keyboard style, voice

Topic 2.2.8. Biometric devices in our life

Electronic chips, tattoo, medical control chips and so on

Topic 2.2.9. Types and classes of biometric sensors and systems

The main tasks of biometric technologies, their positive and negative sides

Topic 2.2.10. Chemical biometric devices

Analizators of DNA segments. Retrieving them in data bases

Topic 2.2.11. Visual biometric devices

The process of recognition by visual biometric devices

Topic 2.2.12. Behavior biometric devices

The process of recognition by behavior biometric devices

Topic 2.2.13. Audio biometric devices

The process of recognition by audio biometric devices

Topic 2.2.14. Biometric systems in personal gadgets

Unblocking of gadgets without passwords, entering the banking system by means of SMS

Topic 2.2.15. Biometric documents

Biometric and genetic passports. Usage of them

2.3. Module № 3 "Artificial Intelligent"

Topic 2.3.1. Artificial Intelligent

The general description of Artificial Intelligent and its classification

Topic 2.3.2. History of Artificial Intelligent

The role of Shikkard, Pascal, Leibnitz and Babbage in the development of Artificial Intelligent

Topic 2.3.3. Artificial Intelligent as the branch of computer linguistics and informatics

The branch of computer linguistics and informatics which is aimed to do tasks looked like human being performed

Topic 2.3.4. Computer teaching as a part of Artificial Intelligent

Data and their estimated functions

Topic 2.3.5. Computer Vision

Computer vision's usage in industry and manufacture

Topic 2.3.6. Artificial Intelligent and its status

The general flow of singularity such as nanotechnology, molecular bioelectronics, theoretical biology, quantum theory, noothropics, extramophils and others

Topic 2.3.7. The usage and future development of Artificial Intelligent
The creation of Artificial Intelligent which can solve the mankind's problems

Topic 2.3.8. What is Intelligent? Can the computer think?
The hypotheses of strong and weak intelligence

Topic 2.3.9. Nanotechnologies
Nanotechnologies in the modern life

Topic 2.3.10. Nanotechnologies and nanosciences
Nanosciences: history, development, and future

Topic 2.3.11. Nanomaterials
Unique characteristics of materials created on the basis of tiny nanotechnological units

Topic 2.3.12. Nanoconductors
Usage of nanoconductors for electronic circuit creation and growing of artificial nerve tissue on it to connect nerve cells with electronics

Topic 2.3.13. Nanotecnologies and their unique characteristics
Liquied metal electroconductors, nanoplaster, water nanofilters, nanotechnological charger

Topic 2.3.14. Nanotecnologies and their unique characteristics
Artificial retina, lighting clothes, medical nanoneedles, 3D printers and so on

Topic 2.3.15. Society's attitude to nanotechnologies
Advantages and disadvantages of nanotechnologies

2.4. Module № 4 "Computer Viruses. Antivirus Programmes "

Topic 2.4.1. Computer virus
The origin of the term. The harmful influence of the virus

Topic 2.4.2. History of creation of the first computer virus
The idea and history of creation of the first computer virus

Topic 2.4.3. Types and names of computer viruses
Types and strange names of viruses

Topic 2.4.4. Features of infected computers
Self-opening of some websites and increasing of internet traffic as the features of infected computers

Topic 2.4.5. Boot viruses, file viruses, invisible viruses, retro viruses, computer worms and others
Their characteristics, ways of computer infections

Topic 2.4.6. Types of antivirus programmes
The main tasks of antivirus programmes, the history of creation

Topic 2.4.7. Antivirus programmes. Detection
Advantages and disadvantages of these antivirus programmes

Topic 2.4.8. Antivirus programmes. Treating
Advantages and disadvantages of these antivirus programmes

Topic 2.4.9. Antivirus programmes. Revisions
Advantages and disadvantages of these antivirus programmes
Topic 2.4.10. Antivirus programmes. Filtration
Advantages and disadvantages of these antivirus programmes
Topic 2.4.11. Antivirus programmes. Vaccination
Advantages and disadvantages of these antivirus programmes
Topic 2.4.12. Cyberspace
Cyberspace origin, history,types and classes
Topic 2.4.13. Cybercrimes
Cybercrimes's types, concequences, and ways of struggle
Topic 2.4.14. Cyber terrorism
Cybercrimes or cyber terrorism as the threat for data protection in the world

3. LIST OF REFERENCES

3.1. Basic Literature

3.1.1. Шостак О.Г. Professional English: Information Technology Language : підруч. / О.Г. Шостак, Б.В. Бистрова, О.В. Сарсадських. – К.: «Талком», 2014. – 374с.

3.1.2. Dictionary of Physics / Edited by Valerie H. Pitt. – Longman Group Ltd, 2001. – 368 p.

3.1.3. Tamzen, Armer. Cambridge English for Scientists. – Cambridge : Cambridge University Press, 2011. – 128 p.

3.1.4. Virginia Evans. Round Up 5. Grammar book. – Longman, 2004. – 210 p.

3.2. Additional Literature

3.2.1. Crowell, Benjamin. Electricity and Magnetism. – Fullerton, California, 2002. – 166 p.

3.2.2. Crowell, Benjamin. Optics. – Fullerton, California, 2001. – 98 p.

3.2.3. David Millar, Ian Millar, John Millar and Margaret Millar. The Cambridge Dictionary of Scientists. 2 edition. – New York : Cambridge University Press, 2002. – 428 p.

3.2.4. Deeson, Eric. Collins Internet-linked Dictionary of Physics. – London : Harper Collins Publishers Ltd, 2007. – 538 p.

3.2.5. Foley Mark & Hall Diane. My Grammar Lab. Grammar book. Intermediate B1– B2. – Pearson Publishing House, 2012. – 385 p.

3.2.6. Hewitt, P. Conceptual Physics. 9th edition. Boston : Pearson Prentice Hall, 2009. – 480 p.

3.2.7. Ibbotson M. Professional English in Use. Engineering. Technical English for professionals. – Cambridge : Cambridge University Press, 2009. – 144 p.

3.2.8. Jewett, Serway. Physics for Scientists and Engineers. 6th edition. – California : California State Polytechnic University, 2004. – 1284 p.

(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

№ змі-ни	№ листа (сторінки)				Підпис особи, яка внесла	Дата внесен-ня 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				