Quality Management System

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

QMS NAU S 12.01.04–01-2017
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.

Developed by
Associate Professor
of the Foreign Languages
and Applied Linguistics Department ____________ L. Konoplianyk
Senior Lecturer of the Foreign Languages
and Applied Linguistics Department ____________ S. Soroka

Discussed and approved by the Foreign Languages and Applied Linguistics Department, Minutes № ___ of “___” _____________ 2017.

Head of the Department _________________ O. Shostak

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.

Head of the Department _________________ V. Sineglazov

Discussed and approved by the Scientific-Methodological-Editorial Board of the Educational and Research Humanities Institute, Minutes № ___ of “___” _____________ 2017.

Head of SMEB _________________ S. Yahodzinskyi

“Agreed”
Director of ER HI
________________________ A. Gudmanian

Director of the Center of Advanced Technologies
________________________ V. Kazak

“___” _____________ 2017.

“___” _____________ 2017.

Document level – 3b
The planned term between the revisions – 1 year
Master copy
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.


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 No 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

**Tem 2.2.6. Biometrical identification and its static methods**
The most popular biometrical identification method with the usage of the fingerprint, palm shape, veins location on the back of the hand, retina, iridial part of retina, facial shape and so on

**Tem 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. Nanotechnologies and their unique characteristics**
Liqued metal electroconductors, nanoplasters, water nanofilters, nanotechnological charger

**Topic 2.3.14. Nanotechnologies 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, consequences, 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

3.2. Additional Literature
(Ф 03.02 – 01)

### АРКУШ ПОШІРЕННЯ ДОКУМЕНТА

<table>
<thead>
<tr>
<th>№ прим.</th>
<th>Куди передано (підрозділ)</th>
<th>Дата видачі</th>
<th>П.І.Б. отримувача</th>
<th>Підпис отримувача</th>
<th>Примітки</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Ф 03.02 – 02)

### АРКУШ ОЗНАЙОМЛЕННЯ З ДОКУМЕНТОМ

<table>
<thead>
<tr>
<th>№ пор.</th>
<th>Прізвище ім'я по-батькові</th>
<th>Підпис ознайомленої особи</th>
<th>Дата ознайомлення</th>
<th>Примітки</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|        |                           |                           |                   |        |
|        |                           |                           |                   |        |
|        |                           |                           |                   |        |
|        |                           |                           |                   |        |
|        |                           |                           |                   |        |
### АРКУШ РЕЄСТРАЦІЇ РЕВІЗІЙ

<table>
<thead>
<tr>
<th>№ пор.</th>
<th>Прізвище ім'я по-батькові</th>
<th>Дата ревізії</th>
<th>Підпис</th>
<th>Висновок щодо адекватності</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### АРКУШ ОБЛІКУ ЗМІН

<table>
<thead>
<tr>
<th>№ зміни</th>
<th>№ листа (сторінки)</th>
<th>Підпис особи, яка внесла зміни</th>
<th>Дата внесення зміни</th>
<th>Дата введення зміни</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### УЗГОДЖЕННЯ ЗМІН

<table>
<thead>
<tr>
<th>Підпис</th>
<th>Ініціали, прізвище</th>
<th>Посада</th>
<th>Дата</th>
</tr>
</thead>
<tbody>
<tr>
<td>Розробник</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Узгоджено</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Узгоджено</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Узгоджено</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>