National Technical University of Ukraine
KYIV POLYTECHNIC INSTITUTE
Named after IGOR SIKORSKY"

Department of English
for Humanities No. 3

English for Professional Purposes
Curriculum (Syllabus)

Course details	
Level of higher education	***First (bachelor's)***
Special	G5 Electronics, electronic communications, instrument engineering, and radio engineering
Educational program	For all educational programs
Status of discipline	Mandatory
Form of study	Full-time (day)
Year of study, semester	2nd year (1st and 2nd semesters)
Scope of the discipline	5 ECTS credits. Total volume of the discipline: 150 hours: practical classes – 88 hours, independent work – 62 hours.
Semester control/control measures	Module Test (1 semester), test (2 semester)
Class schedule	1.5 classes per week according to the schedule https://schedule.kpi.ua/
Language of instruction	English
Information about course director/teachers	Department teachers: KAMGS No. 3 - https://kamgs3.kpi.ua/ Coordinator: Lecturer Natalia Volodymyrivna Chizhova Contact phone number: 044 204 82 05 Email: chizhova.nataliia@lll.kpi.ua
Course location	The course is available on the Sikorsky platform and on the department website

Curriculum

1. Description of the academic discipline, its purpose, subject matter, and learning outcomes

The discipline "English for Professional Purposes" belongs to the cycle of humanities and socio-economic training. A distinctive feature of its study is its professionally-oriented nature and interdisciplinary connections, which are reflected in the educational goals and content of the course.

The aim of the course is to develop foreign language communication skills at a level not lower than B2, which is the standard for bachelor's degree programs. At this level, students are able to communicate effectively in typical educational and professional situations in accordance with the norms and cultural traditions of specialists in a particular field.

This discipline is important for future specialists to study as it provides them with the necessary level of knowledge, skills, and abilities in foreign language professional communication and ensures the effective use of English terminology during international cooperation, taking into account the peculiarities of communication within the needs of the relevant profession. The discipline covers the basic needs of document management, business correspondence, and production negotiations in a foreign language.

While studying the discipline, students acquire **general competencies**:

- The ability to communicate in the national and foreign languages, both orally and in writing

The acquired competencies form **the** following **program learning outcomes** in students:

- communicate freely in Ukrainian and English, both orally and in writing, to discuss social, everyday, and general professional issues.
- use documentation related to professional activities, using modern technologies and office equipment; use English, including special terminology, to communicate with specialists, conduct literary research, and read texts on technical and professional topics.

2. Prerequisites and post-requisites of the discipline (place in the structural-logical scheme of training under the relevant educational program)

Prerequisites: basic level of foreign language proficiency B1 according to the Common European Framework of Reference for Languages, acquired as a result of completing programs of general secondary or pre-higher education institutions.

Post-requisites: study of the discipline "English for Professional Purposes" with the aim of achieving level B2.

3. Content of the academic discipline

Thematic plan of the educational component
Semester 3

Topic 1. Inventions and Innovations.
Topic 2. Design Principles.
Topic 3. Mechanical Engineering.
Topic 4. Electrical Engineering.
Topic 5. Demand and Supply.

Semester 4

Topic 6. Chemical Engineering and Bioengineering.
Topic 7. Electronics, Automation, and Electronic Communications.
Topic 8. Aviation, Rocket and Space Technology.
Topic 9. Production and Technology.
Topic 10. Radio Communication System.

4. Teaching materials and resources

Basic literature:

1. Cunningham, R., & Dooley, J. (2018). *Career Paths: Industrial Engineering. Book 3.* (with Digibooks Application) Express Publishing.
2. Dearholt, J. D. (2018). *Career Paths: Mechanics. Book 3.* (with Digibooks Application) Express Publishing.
3. Evans, V., Dooley, J., Lehnert, J. (2018*). Career Paths: Medical Equipment Repair. Book 3.* Express Publishing.
4. Evans, V., Dooley, J., Prinja, A. (2018). *Career Paths: Nuclear Engineering. Book 3.* Express Publishing.
5. Evans, V., Dooley, J., Rodgers, K. (2022). *Career Paths: Natural Resources II. Mining. Book 3.* Express Publishing.
6. Evans, V., Dooley, J., Taylor, C. (2012*). Career Paths: Electronics. Book 3.* Express Publishing.
7. Lloyd, C., & Frazier, J. A. (2012). *Career Paths: Engineering. Book 3.* Express Publishing.

8. Norton, E., & Dooley, J. (2018). *Career Paths: Chemical Engineering. Book 3*. (with Digibooks Application) Express Publishing.
9. Norton, E., & Dooley, J. (2014). *Career Paths: Mechanical Engineering. Book 1*. (with Digibooks Application) Express Publishing.
10. Bonamy, D. (2022). *Technical English 2.* Coursebook. (2nd ed.). Harlow: Pearson Longman.

Supplementary literature:

1. Brieger, N., & Pohl, A. (2007). *Technical English vocabulary and grammar*: Summertown Publishing.
2. Dooley, J. & Evans, V. (2008). *Grammarway 3*. Express Publishing.
3. Evans, V., Dooley, J., & Taylor, C. (2018). *Career Paths: Electronics: Book 3*. Express Publishing.
4. Evans, V., & Dooley, J. (2018). *On screen B1+. Student's Book*. Newbury. Express Publishing.
5. Evans, V., Dooley, J., & Nawathe, V. (2018). *Career Paths: Computer Engineering* (2nd *edition): Student's Book* (with Digibooks Application) Express Publishing.
6. Evans, V., Dooley, J., & Esparza, J. (2012). *Career paths: Civil aviation* - Student's book. Express Publishing.
7. Emery, H., Kennedy, J., & Roberts, A. (2008). *Aviation English: For ICAO compliance.* Student's book. Macmillan Education.
8. Foley, M. & Hall, D. (2019). *MyGrammarLab. Intermediate B1/B2.* Pearson.
9. King, D. (2005). *Socializing*. Delta Publishing.
10. Morgan, D., & Regan, N. (2023). Take-off: Technical English for engineering course book (2023 edition) [eBook 319194].
11. Mann, M. & Taylore-Knowles, S. (2008). *Destination B1*. Macmillan.
12. Murphy, R. (2019). *English Grammar in Use: A self-reference and practice book for intermediate students of English*. Fifth edition. Cambridge University Press.
13. Wilson, J., & Clare A. (2022). *Speakout. Intermediate.* Students' Book. 3rd edition. Pearson Education Limited.

Online resources:

https://learnenglish.britishcouncil.org/en/english-emails
https://esol.britishcouncil.org
https://learnenglishteens.britishcouncil.org/
https://www.bbc.co.uk/learningenglish/

Educational content

5. Methodology for mastering the academic discipline (educational component)

The general methodological approach to teaching the academic discipline "English for Professional Purposes" is defined as communicative-cognitive, activity-oriented, with the student as the subject of learning at its center. The methodology of teaching a foreign language combines the basic principles of communicative methodology aimed at developing foreign language communication skills, in which communication is both the ultimate goal of language learning and the means of achieving it. Practical classes are aimed at acquiring knowledge, developing and improving skills and abilities to communicate in a foreign language environment, effectively processing foreign language sources of information, selecting the necessary information, developing critical analysis skills and abilities, and developing foreign language written communication skills and abilities.

List of topics for

No. PZ	Topic	Class hours
3rd semester		
1	Topic 1.1. Inventions and Innovations: Notable engineering inventions in the past. Introduction to the course. Practical task: completion of entrance testing.	2
2	Topic 1.2. Inventions and Innovations: Trends and advancements. Practical task: completing exercises related to the topic of the lesson.	2
3	Topic 1.3. Inventions and Innovations: Modern engineering software. Practical task: completing exercises related to the topic of the lesson.	2
4	Topic 1.4. Inventions and Innovations: Revision. Practical task: reviewing the material studied.	2
5	Topic 2.1. Design Principles: Principles of engineering design. Practical task: completing exercises related to the topic of the lesson.	2
6	Topic 2.2. Design Principles: Design thinking and problem-solving approaches. Practical task: completing exercises related to the topic of the lesson.	2
7	Topic 2.3. Design Principles: Computer-aided design (CAD) tools and applications. Practical task: completing exercises related to the topic of the lesson.	2
8	Topic 2.4. Design Principles: Revision. Practical task: review of the material studied.	2
9	Topic 3.1. Mechanical Engineering: Mechanical engineering concepts and applications. Practical task: performing exercises related to the topic of the lesson.	2
10	Topic 3.2. Mechanical Engineering: Overview of mechanics, thermodynamics, fluid dynamics, and materials science relevant to mechanical engineering. Practical task: completing exercises related to the topic of the lesson.	2
11	Topic 3.3. Mechanical Engineering: Mechanical systems, describing mechanical processes and principles. Practical task: completing exercises related to the topic of the lesson.	2
12	Topic 3.4. Mechanical Engineering: Revision. Practical task: revision of the material studied.	2
13	Topic 4.1. Electrical Engineering: Principles of electrical engineering and their applications. Practical task: completing exercises related to the topic of the lesson.	2
14	Topic 4.2. Electrical Engineering: Circuit theory, electromagnetism, power systems, and electronics basics. Practical task: completing exercises related to the topic of the lesson.	2
15	Topic 4.3. Electrical Engineering: Understanding electrical diagrams, explaining electrical components and systems. Practical task: completing exercises related to the topic of the lesson.	2
16	Topic 4.4. Electrical Engineering: Revision. Practical task: completing exercises related to the topic of the lesson.	2
17	Topic 5.1 Demand and supply: Printing Technologies. Practical task: completing exercises related to the topic of the lesson.	2
18	Topic 5.2. Demand and supply: Types of markers. Practical task: completing exercises related to the topic of the lesson.	2
19	Topic 5.3. Demand and supply: Electronic markets.	2

	Practical task: completing exercises related to the topic of the lesson.	
20	Topic 5.4. Demand and supply: Different offers. Practical task: review of the material studied. Preparation for the module test.	2
21	Modular test.	2
22	Summing up the semester. Review of the material studied.	2
4th semester		
23	Topic 6.1. Chemical Engineering and Bioengineering: Principles of chemical engineering and its applications in biotechnology. Practical task: diagnostic testing; completion of exercises related to the topic of the lesson.	2
24	Topic 6.2. Chemical Engineering and Bioengineering: Chemical processes, bioreactors, biochemical reactions, and genetic engineering. Practical task: completing exercises related to the topic of the lesson.	2
25	Topic 6.3. Chemical Engineering and Bioengineering: Describing chemical reactions and biotechnological advancements. Practical task: completing exercises related to the topic of the lesson.	2
26	Topic 6.4. Chemical Engineering and Bioengineering: Revision. Practical task: review of the material studied.	2
27	Topic 7.1. Electronics, Automation, and Electronic Communications: An overview of the fields. Practical task: completing exercises related to the topic of the lesson.	2
2	Topic 7.2. Electronics, Automation, and Electronic Communications: Digital electronics, control systems, robotics, and communication systems. Practical task: completing exercises related to the topic of the lesson.	2
29	Topic 7.3. Electronics, Automation, and Electronic Communications: Electronic devices, automation and communication technologies. Practical task: completing exercises related to the topic of the lesson.	2
30	Topic 7.4. Electronics, Automation, and Electronic Communications: Revision. Practical task: review of the material studied.	2
31	Topic 8.1. Aviation, Rocket and Space Technology: Fundamentals of aviation and aerospace engineering. Practical task: completing exercises related to the topic of the lesson.	2
32	Topic 8.2. Aviation, Rocket and Space Technology: Aerodynamics, propulsion, spacecraft design, and technology. Practical task: completing exercises related to the topic of the lesson.	2
33	Topic 8.3. Aviation, Rocket and Space Technology: Flight and space. Practical task: completing exercises related to the topic of the lesson.	2
34	Topic 8.4. Aviation, Rocket and Space Technology: Revision. Practical task: reviewing the material studied.	2
35	Topic 9.1. Production and Technology: Manufacturing processes and technologies used in production. Practical task: completing exercises related to the topic of the lesson.	2
36	Topic 9.2. Production and Technology: Lean manufacturing, CAD/CAM, materials handling, quality control, and industrial automation. Practical task: completing exercises related to the topic of the lesson.	2
37	Topic 9.3. Production and Technology: Production processes and technology integration in manufacturing. Practical task: completing exercises related to the topic of the lesson.	2
38	Topic 9.4. Production and Technology: Revision. Practical task: review of the material studied.	2

39	Topic 10.1. Radio Communication System: Fundamentals of Radio Wave Propagation. Practical task: completing exercises related to the topic of the lesson.	2
40	Topic 10.2. Radio Communication System: Radio Communication Technologies and Standards. Practical task: completing exercises related to the topic of the lesson.	2
41	Topic 10.3. Radio Communication System: System Components and Design. Practical task: completing exercises related to the topic of the lesson.	2
42	Topic 10.4. Radio Communication System: Applications and Future Trends. Practical task: review of the material studied.	2
43	Final test.	2
44	Summing up the course, announcing student ratings, and providing individual recommendations for further study based on the results obtained.	2
	TOTAL	**8**

6. Independent work by students

Independent work is the main means of assimilating educational material outside of class time and includes: preparation for practical classes, studying additional material, preparation for modular tests and exams, and completion of individual assignments. Individual assignments are one form of independent learning aimed at deepening, generalizing, and consolidating the knowledge, skills, and abilities that students acquire in the process of formal learning. Typical individual assignments may include: completing tasks on the Sikorsky platform, competitive creative works, interactive posters and presentations, mini-projects, participation in virtual exchanges, writing essays, completing exercises of varying degrees of difficulty on an individual basis, etc.

Distribution of hours between classroom and independent work

Names of content modules	Number of hours		
	Total	Including	
		Practical	SRC
1 semester			
Practical classes	69	42	27
Modular test	6	2	4
Total (1 semester)	**75**	**44**	**31**
2nd semester			
Practical classes	65	42	23
Final test	4	2	2
Credit	6	-	6
Total (2nd semester)	**75**	**44**	**31**
TOTAL	**150**	**88**	**62**

Policy and control

7. Policy of the academic discipline (educational component)

The educational component "English for Professional Purposes" is exclusively practical in nature, therefore, for successful learning, it is necessary to study materials for preparation for practical classes on topics, work with basic and additional literature.

The instructor posts all necessary teaching materials in the Sikorsky online environment, which is accessible to students studying this educational component.

Students receive up-to-date information on the organization of the educational process for the discipline through messages on the Electronic Campus or through the department's official channel on WhatsApp. During blended or distance learning, practical classes are held in the form of video conferences on the Zoom/Google Meet/Microsoft Teams/Blue Button/Discord platform.

Assessment is carried out according to an agreed rating system. Expected learning outcomes, control measures, and deadlines are announced to students at the first class.

Bonus points may be awarded for participation in scientific and practical conferences, competitions, and in cases where learning outcomes acquired through non-formal and/or informal education are recognized.

Bonus points for participation in events of various levels may constitute no more than 10% of the total rating, i.e., no more than 10 points per year.

Type of event/Level	International	All-Ukrainian	University
Scientific conference with a presentation in a foreign language	5	4	2.5-0.5
Creative works competition with presentation in a foreign language	5	4	2.5-0.5
Foreign language competition	5	4	2.5-0.5

Academic integrity

Students must adhere to the Code of Honor of Igor Sikorsky Kyiv Polytechnic Institute, the principles of academic integrity, and the norms of ethical behavior: to demonstrate discipline, politeness, friendliness, honesty, and responsibility.

The policy and principles of academic integrity are defined in Section 3 of the Code of Honor of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute." For more details, see: https://kpi.ua/code.

All works are checked for plagiarism and the use of AI (https://osvita.kpi.ua/node/1225). Works in which signs of academic dishonesty are found are canceled.

Standards of ethical behavior

The standards of ethical conduct for students and employees are defined in Section 2 of the Code of Honor of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute." For more details, please visit: https://kpi.ua/code

8. Types of control and rating system for assessing learning outcomes (RSO)

Ongoing assessment. The instructor regularly enters the results of ongoing assessment into the "Ongoing Assessment" module of the Electronic Campus in accordance with the Regulations on ongoing, calendar, and semester assessment at Igor Sikorsky Kyiv Polytechnic Institute. For more details, see: https://document.kpi.ua/2020_7-137. Students can view the results of current assessment in their personal account on the Electronic Campus.

During the first class, students are introduced to the rating system of assessment (RSA) for the discipline, which is based on the Regulations on the system of assessment of learning outcomes https://document.kpi.ua/files/2020_1-273.pdf

In particular, a student's grade for a course consists of points that can be earned for answers in practical classes during two semesters and for completing the MCR in the first

semester and the final test in the second semester. During the first class of each semester, entrance and diagnostic tests are conducted, the grades for which are not included in the student's grade.

According to the Regulations on current, calendar, and semester control of learning outcomes at Igor Sikorsky KPI (https://osvita.kpi.ua/node/32) and the Regulations for conducting semester control in a remote mode (https://osvita.kpi.ua/node/368 calendar control - attestation - is conducted in the 7th and 13th weeks of each semester of study and is implemented by determining the level of compliance of the student's current performance rating with the criteria specified in the RSO.

No. No	Type of event	%	Weight	Number	Total
1.	Work in practical classes (1st semester – 20 classes; 2nd semester – 20 classes)	80	2	40	80
2.	Modular test (1st semester)	10	10	1	10
3	Final test (2nd semester)	10	10	1	10
				Total	**10**

Criteria for assessing mastery of the educational component

The maximum weight score for work in a practical class is 2 points.

Weight	Assessment criteria
2-1.9	Complete and correct performance of all educational tasks, taking into account the material studied on the topic of the class; minor errors (up to two)
1.8	Correct completion of most learning tasks, taking into account the material studied on the topic of the lesson; minor errors or answers with minor inaccuracies
1.4-1.2	partial completion of educational tasks, taking into account the material studied on the topic of the lesson; significant errors and answers with inaccuracies; if the applicant is not prepared for the practical class but actively works with the practical class materials, the work will be assessed according to this criterion
0	There are gross errors or the answer contains significant inaccuracies; the applicant is not prepared for the practical class and/or does not work with the practical class materials.

Calendar control (CC) of students is carried out according to the current rating. The condition for satisfactory certification is that the student's current rating is not less than 50% of the maximum possible at the time of calendar control.

CC term		Maximum current rating	Minimum current rating (50%)
1 semester	7 weeks (10 classes/11 classes) (first CC)	18	9
	Week 13 (19 classes/20 classes)	36/38	18/19

	(second CC)		
2nd semester	7 week (32 classes/33 classes) (first CC)	68/70	34
	Week 13 (41 lessons/42 lessons) (second CC)	86/88	43/44

Modular control work (MCW) is conducted to check students' mastery of the module material in the penultimate class of the fall semester, and the final test (FT) is conducted in the penultimate class of the spring semester. The purpose of the MCT and FT is to test the level of language skills in listening, reading, grammar, writing, and speaking.

The module control work/final test consists of 7 tasks:

1) Listening comprehension (5 questions). Maximum number of points – 10, each question – 2 points.
2) Reading comprehension (10 questions). Maximum score – 20, each question – 2 points.
3) Use of language to test the student's lexical skills (10 questions). Maximum score – 10, each question – 1 point.
4) Use of language to test the student's grammar skills (20 sentences). Maximum number of points – 20, each question – 1 point.
5) A written task designed to test the ability to write a coherent and logically complete text in a foreign language. Maximum score – 10.
6) Speaking: conversation on suggested topics. Monologue: maximum score – 10 points. Dialogue: maximum score – 20 points.

To simplify the calculation, we introduce a coefficient of 0.1. Thus, the maximum number of points for MCR/PT: 100 points x 0.1 = 10 points.

Retaking the module test is not allowed.

Semester control in the form of a test is conducted during the test and examination session in the spring semester. At the last class of the spring semester, the final calculation of the RD rating is made for students, and incentive points are added for creative work.

Students who have earned RD≥60 have the opportunity to:points

- receive a passing grade (credit) automatically based on the rating obtained. In this case, *RD* points and corresponding grades are entered into the credit and examination record;
- take a credit test in order to improve the grade.

If the grade for the credit test is higher than the "automatic" grade based on the rating, the student receives a grade based on the results of the credit test.

If the grade for the test is lower than the "automatic" grade based on the rating, a "strict" RSO is applied — the student's previous rating is canceled, and they receive a grade based on the results of the test.

Students who have scored less than 60 points in the educational component over two semesters are required to take the test.

Structure of the test:

Test task No. 1 (listening comprehension).

The maximum number of points is 10, with each question worth 2 points.

Test tasks No. 2 and No. 3 (reading).

Maximum number of points – 20, each question – 2 points.

Test task No. 4 (vocabulary knowledge).

Maximum number of points – 10, each question – 1 point.

Test task No. 5 (grammar knowledge).

Maximum number of points – 20, each question – 1 point.
Test task No. 6 (writing). Maximum number of points – 10.
Test task No. 7 (monologue and dialogue speech).
Maximum number of points – 30.

Grading scale:
95–100 points "excellent"
85–94 points "very good"
75–84 points "good"
65–74 points "satisfactory"
60–64 points "sufficient"
Less than 60 points "unsatisfactory"

The conversion of rating scores from the educational component for inclusion in the examination (test) record and test book is carried out in accordance with the table:

Table of correspondence between rating points and grades on the university scale:

Number of points	Grade
100-95	Excellent
94	Very good
84	Good
74-65	Satisfactory
64-60	Sufficient
Less than 60	Unsatisfactory

9. Additional information on the discipline (educational component)

Recognition of learning outcomes obtained in non-formal/informal education, in particular international foreign language certificates at level B2 and above (a list of recommended international tests of English as a foreign language is provided in Appendix 1 to Order No. 13 of the Ministry of Education and Science of Ukraine dated January 14, 2016, see http://old.mon.gov.ua/files/normative/2016-03-04/5162/nmo-13.pdf), is regulated by the relevant current "Regulations on the recognition by Igor Sikorsky KPI of learning outcomes acquired in non-formal/informal education" (https://osvita.kpi.ua/node/179).
To validate the learning outcomes, a subject committee is established by order of the dean of the faculty, which includes: the head of the department ; a scientific and pedagogical worker responsible for the educational component offered for enrollment; a scientific and pedagogical worker of the department of the technical faculty/institute, as a rule, the curator of the applicant's academic group or his scientific supervisor. The subject committee reviews the submitted documents, analyzes their compliance with the syllabus (work program of the academic discipline/educational component), interviews the applicant (if necessary), and makes one of the following decisions:
1. to recognize the results obtained during informal education and count them as a semester assessment for the relevant academic discipline/educational component;
2. recognize the results obtained during informal education and credit them in accordance with the rating assessment system as current control of the relevant component of the academic discipline/educational component in the amount of no more than 15 points per academic year;
3. not to recognize the results obtained during informal/non-formal education;
4. set a date for an extraordinary control measure, in accordance with the curriculum for the academic discipline/educational component, which may be credited.

Inclusive education. The educational component can be taught to most students with special educational needs who are unable to complete tasks using personal computers,

laptops, and/or other technical means. For more information on ensuring the inclusiveness of education at Igor Sikorsky KPI, please visit https://osvita.kpi.ua/node/172.

Work program for the academic discipline (syllabus):

Compiled by Associate Professor of the Department of AMGS No. 3 Kozubska I.G.

Approved by the Department of AMGS No. 3 (Minutes No. 11 of May 20, 2025)

Approved by the Methodological Commission of the Faculty of Linguistics (Minutes No. 11 of May 23, 2025)

Approved by the Methodological Council of Igor Sikorsky KPI (Minutes No. 8 of May 29, 2025)