Національний технічний університет України
«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ
імені ІГОРЯ СІКОРСЬКОГО»

Ecology and technology of plant polymers

Technical regulations and standards for increasing the degree of conformity of products

Working program of the academic discipline (Syllabus)

Details of the academic discipline

Level of higher education	***Second (master's)***
Branch of knowledge	*16 Chemical and bioengineering*
Specialty	***161 Chemical technologies and engineering***
Educational program	*Industrial ecology and resource-efficient clean technologies*
Discipline status	*Selective*
Form of education	*correspondence (day)/distance/mixed*
Year of training, semester	*1st year, spring semester*
Scope of the discipline	*4.0 credits (120 hours)*
Semester control/ control measures	*Test*
Lessons schedule	*12 hours (6 hours of lectures + 6 hours of practical classes)*
Language of teaching	*Ukrainian*
Information about the course leader / teachers	Lecturer: https://eco-paper.kpi.ua/pro-kafedru/vykladachi/vizytky/Ploskonos-Victor-Grigorovych.html Practical / Seminar: https://eco-paper.kpi.ua/pro-kafedru/vykladachi/vizytky/ Ploskonos-Victor-Grigorovych.html
Placement of the course	*https://do.ipo.kpi.ua/course/view.php?id=4395*

Program of educational discipline

1. Description of the educational discipline, its purpose, subject of study and learning outcomes

The knowledge gained in the process of studying the academic discipline will allow to be included in the development of state standards of Ukraine (DSTU), technological regulations and technical conditions (TU U) for the production of paper and cardboard; understand the basics of the organization of standards development activities in Ukraine and the leading countries of Europe and the world; to understand how the assessment of product compliance with the requirements of technical standards is carried out.

The subject of the academic discipline "Technical regulations and standards for increasing the degree of conformity of products"– basic concepts of standards and technical regulations; purpose, principles and objects of development of standards; the essence of standardization and its role in increasing the efficiency of production; procedure for development and approval of standards; marking of products with signs of compliance with the requirements of DSTU and responsibility for violation of the mandatory requirements of the standards; state control and supervision of compliance with the mandatory requirements of the standards; international cooperation in the field of standardization; international standardization in ISO and IES; standardization in European organizations; international standardization and its prospects; procedure for development, approval and implementation of technical regulations in Ukraine; confirmation of conformity of products in Ukraine; organization of testing laboratories.

To a large extent, the solution of the set tasks will be determined by the level of training of specialists who solve the issue of resource conservation, including scientific institutions and organizations, enterprises.

In order to successfully solve tasks, specialists must be fluent in information, able to solve complex problems of modeling situations at the highest scientific level.

The purpose of the educational discipline "Technical regulations and standards for increasing the degree of conformity of products"

The goal of the educational discipline is the formation of students' competencies:

- *Ability to apply knowledge in practical situations;*
- *Ability to search, process and analyze information from various sources;*
- *Ability to independently develop technological projects through creative application of existing and generation of new ideas.*

1.2. According to the requirements of the program of the academic discipline "Technical regulations and standards for increasing the degree of conformity of products", students must demonstrate the following learning outcomes after mastering it:

- Critically interpret scientific concepts and modern theories of chemical processes and chemical engineering, apply them when conducting scientific research and creating innovations;

- Search for the necessary information in scientific and technical literature, patents, databases, and other sources on chemical technology, processes and equipment for the production of chemical substances and materials based on them, systematize, and analyze and evaluate the relevant information;

- Know modern approaches to the organization of ecologically clean productions, reorganization and reconstruction of existing productions from the standpoint of resource conservation

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

Studying the discipline"Technical regulations and standards for increasing the degree of conformity of products" is based on the principles of integration of various knowledge acquired by students during the bachelor's and the 1st semester of master's studies during the study of engineering and technical disciplines. The discipline "Technical regulations and standards for increasing the degree of conformity of products" is the basis that should ensuresolution of technical problems and aimed at deep rethinking of existing and creation of new holistic knowledge and professional practice.

3. Content of the academic discipline

CHAPTER 1"Technical regulations and standards for increasing the degree of conformity of products"

Topic 1 Purpose, principles, objects of technical regulations, specifications and standards

Brief history of technical regulations and standards and certification. Main results, purpose, principles and objects of technical regulations and standards.

Topic 2 Basic provisions for the development, approval and implementation of technical and technological regulations*in Ukraine*

Procedure for development, approval and implementation of technical and technological regulations. Terms. Composition of technical and technological regulations. Requirements for the content of the main section of the regulations. Procedure for development of regulations. Procedure for drawing up regulations. Procedure for coordination of regulations. Procedure for approval and registration of regulations. Term of validity and procedure for cancellation of technical and technological regulations. Monitoring of implementation and responsibility for violation of regulations.

Topic 3 Technical regulations for confirming the conformity of products in Ukraine

Technical regulations for confirming the conformity of products in Ukraine. General provisions, terms and definitions. Basic principles of state policy in the field of conformity confirmation. Confirmation procedure and national mark of conformity. Funding of compliance activities. International cooperation of Ukraine in the field of compliance verification.

Topic 4 Confirmation of conformity of products and organization of activities of testing laboratories (TL)

Confirmation of conformity of products and general requirements for VL. Technical competence. Laboratory staff. Premises and environment. Testing equipment and measuring equipment. Test methods and procedures. Quality system. Products and products being tested. Testing equipment and measuring equipment. Accreditation of testing laboratories. Inspection control over the activities of accredited laboratories.

Topic 5 The role of standardization in confirming the conformity of products

The role of standardization bodies in the confirmed conformity of products, their functions. Technical regulations and standards for increasing the degree of conformity of products. National standardization system. Scientific and methodological bases of technical regulations and standards for increasing the degree of conformity of products. Organization of work on standardization in Ukraine. The essence of standardization and its role in increasing the efficiency of the development of the national economy. Classification and coding of scientific, technical, economic and social information.

Topic 6 Basic provisions of the organization of standardization work in Ukraine

The main provisions of the organization of standardization work in Ukraine. Rules and tasks of standardization. Marking of products with signs of compliance with DSTU requirements. Liability for violation of mandatory requirements of standards. State control and supervision of compliance with the mandatory requirements of the standards. International cooperation in the field of standardization. Financing of standardization works. Information provision of standardization, its services and ownership of standards. Improvement of the state standardization system and Ukraine's entry into the WTO. Harmonization of standards.

Topic 7 The role of standardization in international organizations and foreign countries

Standardization in international organizations. Standardization in ISO. Standardization in IES. Standardization in European organizations. Standardization in the CIS. Prospects of international standardization. Standardization in foreign countries. Standardization in the USA. Standardization in Great Britain. Standardization in France. Standardization in Germany. Standardization in Japan.

4. Educational materials and resources

Basic literature

1. Korsun V.I., Belan V.T., Glukhova N.V. Standardization, Metrology, Certification, Accreditation: Study guide / - Dnipro: NSU, 2011. - 150 p.

2. Yermilova N.V., Kyslytsia S.G. "New sources of standardization and methodology" : Study guide / – Poltava: PoltNTU, 2017. - 141 p.

3. Bozhenko L.I. Metrology, standardization, certification and accreditation. – Lviv: Afisha, 2016. - 324 p.

Additional literature

4. ISO 9000 series standards.

5. European standards of the EN 4500 series.

6. DSTU 3410-96 UkrSEPRO certification system. Substantive provisions.

6. Primakov SP., Barbash V.A. Technology of paper and cardboard. K.: ECMO, 2002.-396 p.

7. DSTU 2926-94 Quality systems. Complexes of quality management are system and technological. Substantive provisions.

Information resources on the Internet

Electronic resources from the course"Technical regulations and standards for increasing the degree of conformity of products", namely:

- *curriculum of the discipline,*
- *credit module syllabus,*

located athttp://www.eco-paper.kpi.ua/for-student, as well as in the e-campus

*Association of Ukrainian pulp and paper enterprises "UkrPapir"***- ukrbim@naverex.kiev.ua**

Educational content

5. **Methods of mastering an educational discipline (educational component)**

Lecture classes

Lectures are aimed at:

- provision of modern, integral, interdependent knowledge in the discipline "Technical regulations and standards for increasing the degree of conformity of products", the level of which is determined by the target setting for each specific topic;

- ensuring creative work of students together with the teacher during the lecture;

- education of students' professional and business qualities and development of their independent creative thinking;

- forming the necessary interest in students and providing direction for independent work;

- definition at the current level of scientific development in the field of standardization;

- reflection of the methodical processing of the material (highlighting of the main provisions, conclusions, recommendations, their wording is clear and adequate);

- the use of visual materials for demonstration, combining them, if possible, with the demonstration of research results;

- teaching research materials in a clear and high-quality language with observance of structural and logical connections, clarification of all newly introduced terms and concepts;

- accessibility for perception by this audience.

No. z/p	*The name of the topic of the lecture and the list of main questions (list of didactic tools, references to the literature and tasks on the SRS)*	*Hour*
1	***SECTION 1 "TECHNICAL REGULATIONS AND STANDARDS FOR INCREASING THE DEGREE OF CONFORMITY OF PRODUCTS"*** ***Topic 1 Purpose, principles, objects of technical regulations, specifications and standards*** *Brief history of technical regulations and standards and certification. Main*	

	results, purpose, principles and objects of technical regulations and standards. *Lecture No. 1. Basic terms and definitions. Condensed historical information about technical regulations and standards.* *Literature: [4] p12-21; [1] pp. 6-14.* *Tasks on SRS Main results, purpose, principles and objects of technical regulations and standards.* ***Topic 2 Basic provisions for the development, approval and implementation of technical and technological regulations in Ukraine*** *Lectures No. 2-3.* *Procedure for development, approval and implementation of technical and technological regulations. Terms. Composition of regulations. Requirements for the content of the main section of the regulations. Procedure for development of regulations. Procedure for drawing up regulations. Procedure for coordination of regulations. Procedure for approval and registration of regulations. Term of validity of technical and technological regulations. Procedure for revoking regulations. Monitoring of implementation and responsibility for violation of technical and technological regulations.* *Literature: [4] p.69-84.* *Tasks for the SRS The procedure for development, approval and implementation of Technical Specifications in Ukraine. Introduction. Normative links. Terms. Construction rules. teaching and design. Rules of consent and acceptance. Marking rules.* *(Technological regulation of newsprint production).*	*2*
2	***Topic 3 Technical regulations for confirming the conformity of products in Ukraine*** *Lectures No. 4-5. General provisions, terms and definitions. Basic principles of state policy in the field of conformity confirmation. Law on Technical Regulations. Confirmation procedure and national mark of conformity.* *Literature: [4] p.86-104, [7] p.16-45.* *Tasks on the SRS Funding of compliance verification activities. International cooperation of Ukraine in the field of compliance verification.* ***Topic 4 Confirmation of conformity of products and organization of activities of testing laboratories (TL)*** *Lecture No. 6. Confirmation of conformity of products and general requirements for VL. Technical competence. Laboratory staff. Premises and environment. Testing equipment and measuring equipment. Test methods and procedures. Quality system. Products and products being tested. Testing equipment and measuring equipment. Accreditation of testing laboratories. Inspection control over the activities of accredited laboratories.* *Literature: [4] p.108-126; [5] pp. 19-35, [7] pp. 66-83.* *Tasks on SRS Quality system. Products and products being tested. Testing equipment and measuring equipment. Accreditation of testing laboratories. Inspection control over the activities of accredited laboratories.*	*1*
3	***Topic 5 The role of standardization in confirming the conformity of products****Lecture No. 7. The role of standardization bodies in the confirmed conformity of products, their functions. Technical regulations and standards for increasing the degree of conformity of products. National standardization system. Scientific and methodological bases of technical regulations and standards for increasing the degree of conformity of products. Organization of work on standardization in Ukraine. The essence of standardization and its role in increasing the efficiency of the development of the national economy. Classification and coding of scientific, technical, economic and social information.* *Literature: [2] pp. 34-41; [4] pp. 29-44.* *Tasks on SRS Fundamentals of standardization. National standardization system. Scientific and methodical bases of standardization. Organization of work on standardization in Ukraine. The essence of standardization and its role in increasing the efficiency of the development of the national economy. Classification and coding of scientific, technical, economic and social information.*	***1***

4	***Topic 6 Basic provisions of the organization of standardization work in Ukraine*** *Lectures No. 8-9. General provisions, rules and tasks of standardization. Marking of products with signs of compliance with DSTU requirements. Liability for violation of mandatory requirements of standards. State control and supervision of compliance with the mandatory requirements of the standards. International cooperation in the field of standardization.* *Literature: [2] pp. 43-51; [4] pp. 46-54.* *Tasks on SRS Financing of standardization works. Information provision of standardization, its services and ownership of standards. Improvement of the state standardization system and Ukraine's entry into the WTO. Harmonization of standards.*	***1***
5	***Topic 7 The role of standardization in international organizations and foreign countries*** *Lecture No. 10-11. Standardization in ISO. Standardization in IES. Standardization in European organizations. Standardization in the CIS.* *Literature: [2] p.44-64; [4] pp. 59-74.* *Lecture No. 11. Standardization in the USA. Standardization in Great Britain. Standardization in other Asian countries.* *Literature: [2] p.66-79; [4] pp. 49-64.* *Tasks on SRS Perspectives of international standardization. Standardization in France. Standardization in Germany. Standardization in Japan.*	***1***
	In total	***6***

Practical training

In the system of professional training of students in this discipline, practical classes occupy 50% of the classroom load. They lay and form the foundations of students' qualifications. The content of these classes and the method of conducting them should ensure the development of the creative activity of the individual. They develop scientific thinking and the ability to use special terminology, allow you to check knowledge, therefore this type of work is an important means of operational feedback. Practical classes should perform not only cognitive and educational functions, but also contribute to the growth of students as creative workers.

The main tasks of the cycle of practical classesand laboratory workshops:

- *help students systematize, consolidate and deepen knowledge of a theoretical nature in the field of standardization, metrology and measurement accuracy;*
- *to teachtheir work with scientific and reference literature;*
- *to form skillsto learn independently, that is, to master the methods, methods and techniques of self-learning, self-development and self-control.*

No. z/p	***Name of the subject of the practical session and list of main questions (a list of didactic support, references to the literature and tasks on the SRS)***	***Hour***
1	***Practical lesson 1-2.*** *General concepts regarding the marking of products with signs of compliance with the requirements of DSTU. Liability for violation of mandatory requirements of standards. State control and supervision of compliance with the mandatory requirements of the standards.* *Literature: [3] c. 49-64; [5] c.33-42.* *Tasks on SRS. International cooperation in the field of technical regulations and standards.*	***1.5***
2	***Practical lesson 3-4.*** *Procedure for development, approval and implementation of technological regulations. Terms. Composition of technological regulations. Requirements for the content of the main section of the technological regulation. Procedure for developing technological regulations.*	***1.5***

	Literature: [4] c.87-91, [5] c.34-43. *Tasks on SRS. The procedure for drawing up technological regulations.*	
3	***Practical lesson 5-6.*** *Basic principles of state policy in the field of conformity confirmation. Confirmation procedure and national mark of conformity.* *Literature: [1] c.92-101, [2] c.44-63.* *Tasks on SRS. Funding of compliance activities.*	***1.5***
4	***Practical lesson 7-9.*** *Product testing and requirements for testing laboratories.Premises and environment. Testing equipment and measuring equipment.* *Literature: [4] c. 148-152; [7] c. 18-58.* *Tasks on SRS. Test methods and procedures in testing laboratories.*	***1.5***
	In total	***6***

7. Independent work of the student

Independent work takes up 65% of the time of studying the credit module, including preparation for the credit. The main task of students' independent work is the mastery of scientific knowledge in areas that are not included in the list of theoretical foundations through personal search for information, formation of active interest in a creative approach in educational work. In the process of independent work within the framework of the educational component, the student must learn to analyze modern methods of developing mathematical models.

No. z/p	*The name of the topic submitted for independent processing*	*Number of hours of SRS*
SECTION 1 "TECHNICAL REGULATIONS AND STANDARDS FOR INCREASING THE DEGREE OF CONFORMITY OF PRODUCTS"		
1	***Topic 1 Purpose, principles, objects of technical regulations, specifications and standards*** *Brief history of technical regulations and standards and certification. Main results, purpose, principles and objects of technical regulations and standards.* ***SRS to topic 1****Main presults, purpose, principles and objects of technical regulations.* *Literature: [4] p12-21; [1] pp. 6-14.* ***Topic 2 Basic provisions for the development, approval and implementation of technical and technological regulations in Ukraine*** ***SRS to topic 2****Procedure for development, approval and implementation of technical and technological regulations. Terms. Composition of regulations. Requirements for the content of the main section of the regulations. Procedure for development of regulations. Procedure for drawing up regulations. Procedure for coordination of regulations. Procedure for approval and registration of regulations. Term of validity of technical and technological regulations. Procedure for revoking regulations. Monitoring of implementation and responsibility for violation of technical and technological regulations.* *(Technological regulation of newsprint production).* *Literature: [4] p.69-84.* ***Topic 3 Technical regulations for confirming the conformity of products in Ukraine*** ***SRS to topic 3****Funding of compliance activities. International cooperation of Ukraine in the field of compliance verification.* *Literature: [4] p.86-104, [5] p.16-45.* ***Topic 4 Confirmation of conformity of products and organization of activities of testing laboratories (TL)***	

	Quality system. Products and products being tested. Testing equipment and measuring equipment. Accreditation of testing laboratories. Inspection control over the activities of accredited laboratories. ***SRS to topic 4****Quality system. Products and products being tested. Testing equipment and measuring equipment. Accreditation of testing laboratories. Inspection control over the activities of accredited laboratories.* *Literature: [4] p.108-126; [5] pp. 19-35, [7] pp. 66-83.* ***Topic 5 The role of standardization in confirming the conformity of products*** ***SRS to topic 5****Basics of standardization. National standardization system. Scientific and methodical bases of standardization. Organization of work on standardization in Ukraine. The essence of standardization and its role in increasing the efficiency of the development of the national economy. Classification and coding of scientific, technical, economic and social information.* *Literature: [2] pp. 34-41; [4] pp. 29-44.* ***Topic 6 Basic provisions of the organization of standardization work in Ukraine*** ***SRS to topic 6****Financing of standardization works. Information provision of standardization, its services and ownership of standards. Improvement of the state standardization system and Ukraine's entry into the WTO. Harmonization of standards.* *Literature: [2] pp. 43-51; [4] pp. 46-54.* ***Topic 7 The role of standardization in international organizations and foreign countries*** ***SRS to topic 7****Prospects of international standardization. Standardization in France. Standardization in Germany. Standardization in Japan.* *Literature: [2] p.44-64; [4] pp. 59-74.*	*94*
2	***Preparation for MKR***	*2*
3	***Preparation for DKR***	*2*
4	***Preparation for the test***	*10*
	Hours in general	*108*

Policy and control

8. Policy of academic discipline (educational component)

Rules of attending classes and behavior in classes

Attending classes is a mandatory component of the assessment. Students are obliged to take an active part in the educational process, not to be late for classes and not to miss them without a good reason, not to interfere with the teacher conducting classes, not to be distracted by actions unrelated to the educational process.

Rules for assigning incentive and penalty points

- *incentive points can be awarded by the teacher exclusively for the performance of creative works in the discipline or additional completion of online specialized courses with the receipt of the appropriate certificate:*
- *https://www.coursera.org/learn/research-methods;*
- *https://ru.coursera.org/learn/metodologiya-nauchnyh-issledovanij-kotiki.*

But their sum cannot exceed 10% of the rating scale.

- *Penalty points are not provided within the academic discipline.*

Policy of deadlines and rescheduling

In the event of arrears from the academic discipline or any force majeure circumstances, students should contact the teacher through available (provided by the teacher) communication channels to resolve problematic issues and agree on an algorithm of actions for practice.

Policy of academic integrity

Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the absence of references for the use of printed and electronic materials, quotes, opinions of other authors. Inadmissible tips and write-offs during writing tests, conducting classes; passing the exam for another student; copying materials protected by the copyright system without the permission of the author of the work.
The policy and principles of academic integrity are defined in Chapter 3 of the Code of Honor of the National Technical University of Ukraine "Ihor Sikorsky Kyiv Polytechnic Institute". More details:https://kpi.ua/code

Policy of academic behavior and ethics
Students should be tolerant, respect the opinions of others, formulate objections in the correct form, constructively support feedback during classes.
Standards of ethical behavior of students and employees are defined in Chapter 2 of the Code of Honor of the National Technical University of Ukraine "Ihor Sikorskyi Kyiv Polytechnic Institute". More details:https://kpi.ua/code

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

Distribution of study time by types of classes and tasks in the discipline according to the working study plan:

Semester	Training time		Distribution of study hours				Control measures		
	Credits	Acad. hours	Lectures	Practical	Lab. practice	SRS	MKR	DKR	Semester control
3	4.0	120	6	6	-	108	1	1	Test

The student's rating in the discipline consists of the points he receives for:
The student's credit module rating consists of the points he receives for:
1) implementation and defense of 9 practical works;
2) two control papers (one MKR is divided into MKR-1, MKR-2) with a duration of one academic hour each);
3) implementation of the DKR.
Semester control is credit.
1 We choose the "hard" version of RSO-1
2 Calculations of approximate values of weight points from each control measure
Next, the approximate values of the weight points for each control measure are calculated.
First of all, it is necessary to determine the value of tk - the educational time planned in the work program for the assimilation of educational material (knowledge and skills), which should be controlled by the k-th control measure.
2.1 Work in practical classes:
Each practical session is provided (on average) with two lectures and the corresponding time of SRS, therefore, when determining tl, we take into account 6 hours. classroom classes and 6 hours SRS related to these classes. Thus, tl = 14 hours.
2.3 Two ICRs provide verification of all educational material. Therefore, we take into account all the time spent on mastering the academic discipline, with the exception of 6 hours for credit. Thus, tmcr = 138 : 2 = 69 h.
2.4 DKR ensures verification of all educational material. Therefore, we take into account all the time spent on mastering the academic discipline, with the exception of 6 hours for credit. Thus, tmcr = 138 : 2 = 69 h.

3 Determination of approximate values of the corresponding weight points
Approximate values of the corresponding weight points are determined based on the calculation of the 100-point scale of RSO:

Σ tk = tp × 3 + tl × 9 + tmkr × 3 = 12 × 3 + 14 × 9 + 69 × 2 = 300;

rp = 12 × 100 / 300 = 4.0; rl = 14 × 100 / 300 = 4.66; rmkr = 69 × 100 / 300 = 23.0.

We finally determine weight points.

4 × 3 + 4.7 × 9 + 23 ×2 should equal 100 points. Therefore, let's make a certain correction:

rp = 5; rDKR = 1 5 rmkr = 20.

4*Determination of the scale of points for the corresponding levels of assessment for each type of control*

A scale of points is determined for the corresponding levels of assessment for each type of control. Taking into account the threshold values of 0.9 – 0.75 – 0.6 – 0, we have the following distribution:

a) Practical work.

Good work, correctly designed result, good and timely defense of work - 5 points;

1 point (but not more than 2 points) is deducted for a decrease in the indicator for one of the positions.

b) Modular control work.

"excellent" - 20 points;

"very good" - 17 points;

"good" - 15 points;

"satisfactory" - 12 points;

"unsatisfactory" - 0 points.

c) Home test work.

"excellent" - 15 points;

"very good" - 13 points;

"good" - 11 points;

"satisfactory" - 9 points;

"unsatisfactory" - 0 points.

A control check is carried out, namely: a student who received the minimum positive points for all controls will have at least 60 points in the end.

3 × 9 + 9+12 ×2 = 60 points.

System of rating points

1. Practical work

- *under the condition of good work, correctly drawn up protocol, good and timely defense of work - 5 points;*

1 point (but not more than 2 points) is deducted for a decrease in the indicator for one of the positions.

In case of non-admission to laboratory work due to unsatisfactory input control, a penalty (–1) point is charged.

2. Modular control work

- *"excellent", complete answer (at least 90% of the required information) - 20 points;*
- *"very good", a sufficiently complete answer (at least 80% of the required information), or a complete answer with minor inaccuracies - 17 points;*
- *"good", a sufficiently complete answer (at least 75% of the required information), or a complete answer with minor inaccuracies - 15 points;*
- *"satisfactory", incomplete answer (at least 60% of the required information) and minor errors - 12 points;*

"unsatisfactory", an unsatisfactory answer (does not meet the requirements for "satisfactory") - 0 points.

3. Home test work

- *"excellent", complete answer (at least 90% of the required information) - 15 points;*
- *"very good", a sufficiently complete answer (at least 80% of the required information), or a complete answer with minor inaccuracies - 13 points;*
- *"good", a sufficiently complete answer (at least 75% of the required information), or a complete answer with minor inaccuracies - 11 points;*
- *"satisfactory", incomplete answer (at least 60% of the required information) and minor errors - 9 points;*

"unsatisfactory", an unsatisfactory answer (does not meet the requirements for "satisfactory") - 0 points.

According to the results of educational work in the first 7 weeks, the "ideal student" should score 40 points.

At the first certification (8th week)*a student is "enrolled" if his current rating is at least 0.5 x 40 = 20 points.*

According to the results of 13 weeks, the "ideal student" should score 80 points.

On the second certification (week 14)*a student is "enrolled" if his current rating is at least 0.5 x 80 = 40 points.*

The maximum number of points is 100.

A necessary condition for admission to the credit is the enrollment of all practical works, all MKR and DKR.

To receive credit from the credit module "automatically" you need to have a rating of at least 60 points.

Students who scored on the grading scale F (40 points or less) are not allowed to take credit and must improve their rating.

Students who scored 41-59 (Fx score) or those who wish to improve their score take a credit test. At the same time, points earned during the semester are cancelled.

During the test, students answer 3 questions, each of which is worth 34 points.

The maximum number of points is 34 x 3 = 100 points.

Criteria for evaluating students' knowledge in the final test:

Completeness and signs of response	***Points***
"Excellent" is the complete answer to the question (at least 90% of the required information)	*34...32*
"Very good", a sufficiently complete answer to the question (at least 80% of the required information), or a complete answer with minor inaccuracies	*29...27*
"Good", a sufficiently complete answer to the question (at least 75% of the required information), or a complete answer with minor inaccuracies	*26...25*
"Satisfactory", incomplete answer to the question (at least 60% of the required information) and minor errors	*21...20*
"Unsatisfactory", unsatisfactory answer to the question (does not meet the requirements for "satisfactory")	*0*

Rating assessment from the credit control work:

R	*University scale*

95...100 points	*Perfectly*
85...94 points	*Very good*
75...84 points	*Fine*
65...74 points	*Satisfactorily*
60...64 points	*Enough*
R<60 points	*Unsatisfactorily*
If rc<40 points or other admission conditions are not met	*Not allowed*

9. Additional information on the discipline (educational component)

List of questions of modular control works

Modular control work (mcr-1)

1. Prerequisites and main principles of state policy in the field of compliance confirmation.
2. Designation of the national mark of conformity of products to national standards.
3. To characterize the coordination of the actions of the executive authorities in the field of confirmation of compliance, the delimitation of their powers and the avoidance of duplication.
4. Characterize the impartiality, transparency and accessibility of compliance verification procedures.
5. On the basis of the Law, explain the application, taking into account the existing international practice, of methods of confirming compliance depending on the potential risk.
6. Briefly list the main tasks of state control and supervision of compliance with the mandatory requirements of the standards.
7. Define: what is the harmonization of standards.
8. To characterize the labeling of products with signs of compliance with the requirements of DSTU.
9. Describe the functions of testing laboratories (centers).
10. Name the requirements for the product quality assessment system.

Modular control work MKR-2

11. On the basis of the Law, to explain the provision of identical procedures for confirming the conformity of products of domestic and foreign origin.
12. Characterize the provision of full and comprehensive information on issues of confirmation of compliance of all involved parties.
13. State what the national mark of conformity of products to national standards is.
14. Name the main tasks of state control and supervision of compliance with the mandatory requirements of standards.
15. Show who carries out state control and supervision of compliance with the mandatory requirements of the standards.
16. List the role of standardization bodies established by the Law "On Standardization".
17. To providedetermination of which spheres of activity and forms of ownership are covered by the Law of Ukraine "On Standardization".
18. To define what is the main task of product conformity assessment.
19. To provide a definition that is the essence of standardization.
20. To provide a definition of what is the priority area of product conformity assessment.

An approximate list of questions that are submitted for semester control:

TICKET #_1_

1. Define the Technological Regulations. Briefly list the main concepts, terms and definitions of the Technological Regulation.

TICKET #_2_

1. Name the main stages of development and implementation of the Technological Regulations.

TICKET #_3_

1. Define and name the purpose of marking products with signs of compliance with the requirements of the State Technical Regulations.

TICKET #_4_

1. To define the essence of state control over compliance with the mandatory requirements of the standards.

TICKET №_5_

1. Define and characterize the essence of standards harmonization.

TICKET №_6_

1. Define what standardization is. Basic concepts, terms and definitions.

TICKET #7

1. Name the main results, purpose, principles and objects of standardization.

TICKET №_8_

1. Name and describe the types of standards.

TICKET №_9_

1. Name the procedure for development and approval of standards.

TICKET #_10_

1. List and name the functions of standardization bodies.

TICKET #_11_

1. Provide the procedure for applying the standards.

TICKET #_12_

1. To provide a definition of standardization in ISO.

TICKET #_13_

1. Name the procedure for approval and implementation of Technical Specifications in Ukraine.

TICKET #_14_

1. To provide the procedure for the development of TU U in Ukraine.

TICKET #_15_

1. To characterize the labeling of products with signs of compliance with the requirements of the State Technical Regulations.

Working program of the academic discipline (syllabus):

Compiled*associate professor, Ph.D., Ploskonos V.G.*

Approved*department ___E and TRP___ (protocol No. 14 dated 18.05.2023)*

Agreed*Methodical commission of the IHF (protocol No. 10 dated 05/26/2023)*