

Faculty of ecology  
Recommended by MSSN

## **DISCIPLINE PROGRAM**

**Title of the discipline** Product certification according to the international environmental standards

**Recommended for the direction of training / specialty**

**05.06.01 Earth Sciences**

**Direction of the program (profile)**

**Ecology: modern environmental studies**

**1. Tasks and objectives:** to consider modern tendencies of raw-product (food and non-food) certification development; industrial-processes (marketable oil transportation, подготовка air and water preparation for industries, corresponding GMP) and products (oil and oil products, cosmetic products, biotic additives, toys, different foodstuffs – cereals, dairy products, fishery product, fruit juice and puree, vegetable fat and oil, meat and meat products, tea and coffee, honey, alcoholic products and its components, mineral and table water) from the perspective of and health and safety. It is considered to be a complex of ecological problems, corresponded on global, regional and national levels.

PhD student should know: modern tendencies development of physicochemical analytical methods from the perspective of quality and from the perspective of. To be able to: use gain knowledge in practice. To possess the theoretical basis of learned physicochemical methods, and main information from international and Russian regulatory documents, regulating the questions of environment condition control..

**2. Place the discipline in the structure of the Concentration program:** Course has a scientific-theoretical and practical purpose, aimed at those interested in global environmental issues of conformity assessment materials, production processes and products on the international environmental requirements. Designed for people with higher science education (biology, ecology and wildlife management, ecology, nature, geography, commodity research and examination of consumer goods). Innovation course is that it includes, in addition to general issues of certification and its relevant areas, such as environmental certification, the latest achievements in the field of instrumental methods of identification and authentication of many objects of certification.

Table 1 shows the previous and subsequent disciplines aimed at the formation of discipline competencies in accordance with the competence matrix of EP HE.

Table No. 1

**Prior and subsequent disciplines aimed at the formation of competencies**

№ п/п	Code and name of competence	Preceding disciplines	Subsequent disciplines (groups of disciplines)
<b>General professional competencies</b>			
	GPC-1	Methodology of scientific research	preparation of the thesis
	GPC-2	Pedagogics of higher school	Teaching practice
<b>Basic competencies</b>			
	BC-2	History and philosophy of science	preparation of the thesis
	BC-3	Foreign language	
<b>3</b>			
	PC-1	Pedagogics of higher school	Teaching practice
	PC-4	Methodology of scientific research	preparation of the thesis

**3. Requirements for the results of the examination of the discipline:**

The process of studying the discipline is aimed at the formation of the following competencies:

1. General professional competencies

Ability to realize the self-directed research activity	GPC-1
Readiness to teaching activity on the field of higher education educational programs	GPC-2

<b>Basic competencies</b>	
---------------------------	--

Ability to the stocktaking and present-day scientific achievement evaluation, modern ideas generation in solving investigative and practical tasks, including cross-disciplinary fields	<b>BC-1</b>
Ability to project and realize complex studies, including cross-disciplinary, based on the integral systematic scientific world outlook by the aid of History and Philosophy of Science knowledge	<b>BC-2</b>
Readiness to take part in the Russian and international study personnel scientific missions resolution.	<b>BC-3</b>
Readiness to utilize the modern methods and technologies of scientific communication in a state and foreign languages.	<b>BC-4</b>
Ability to plan and solve the tasks of professional and personal enhancement	<b>BC-5</b>
To be able to diagnose issues of environmental protection, to make the impact assessment of building projects and other forms of anthropogenic activities to give recommendations on nature preserving and sustainable development maintenance.	<b>PC -2</b>
To be able to make analysis and assessment of nature influence on health and human livelihood	<b>PC -3</b>
To be able to organize and control scientific, research and manufacturing, expert and analytical work and educational work with the use of deepen knowledge in the field of program track	<b>PC -4</b>

As a result of studying the discipline PhD student must:

**know:** the current trends in the development of environmental certification of raw materials Russia, production processes and products from the standpoint of safety and quality of life.

**Be able to:** use obtained in the course of studying of a course of theoretical knowledge in practice.

**Be familiar with:** information of the major Russian and international regulations governing the issues of standardization and certification.

#### 4. The volume of disciplines and types of training work

Total labor discipline is 4 credits.

Type of study	Hours	Semesters			
Class hours (total)	60	3			
<i>Including:</i>	-	-	-	-	-
Lectures	20	20			
Practical training	40	40			
Seminars					
Laboratory works					
Independent work (total)	64	64			
Credit system	час	144	144		
	зач. ед.	4	4		

## 5. Contents

### 5.1. Contents sections

№ п/п	The name of the discipline section	In This section
1.	Tasks and objectives	Elements of the history of certification. Properties of products as the certification of the object. Factors shaping the consumer properties of the product. products and production processes requirements. The specifics of teaching ecological disciplines:

		modern methods of analysis
2.	Voluntary and mandatory conformity assessment	Forms of conformity. Voluntary confirmation of compliance. Signs of conformity of voluntary certification. Mandatory confirmation of compliance.
3.	Participants and certification procedure for its implementation	Certification participants. The rights and obligations of the applicant. OS functions during the compulsory certification. reference mark on the market. Import of Russian products subject to mandatory conformity assessment and acceptance of the Russian Federation the results of conformity assessment abroad.
4.	Foreign certification systems	General information about the organs and systems of conformity (international and regional certification). National certification system developed countries. Quality as the main criterion for certification in the European Union. Regional and international organizations for the certification of quality systems.
5.	Certification of quality systems ISO 9000	The emergence of certificates of conformity for quality assurance system. Problems of standardization and certification of quality management systems. Certification of production. Certification services.
6	International standardization in the field of environmental protection	International Organization for Standardization ISO: structure, objectives, activities, modernization. ISO 14000 as the international environmental management system standard. The participation of Russia in international standardization.
7	Environmental certification	The development of environmental certification in Russia. Mandatory certification on environmental requirements. Voluntary certification.
8	Environmental labeling	Signs of conformity. Demonstration of compliance with environmental requirements. Eco-labeling in the EU. Eco-labeling in Russia.
9	Certification of the integrated system of safety management and quality management of food products on the basis of the process approach ISO 22000: 2005	Gaasp system in the EU. Gaasp in Russia. Development of the safety management system of food products in accordance with ISO 22000: 2005

## 5.2. Sections of disciplines and occupations

№ п/п	Sections of disciplines and occupations	lections	PT	LW	Seminars	IW	hours
1.	Tasks and objectives	2	4	0		6	12
2.	Voluntary and mandatory conformity assessment	2	4	0		6	12
3	Participants and certification procedure for its implementation	2	4	0		6	12
4	Foreign certification systems	2	4	0		6	12
5	Certification of quality systems ISO 9000	2	4	0		8	14
6	International standardization in the field of environmental protection	2	4	0		8	14
7	Environmental certification	2	4	0		8	14
8	Environmental labeling	2	4	0		8	14
9	Certification of the integrated system of safety management and quality management of food products on the basis of the process approach ISO 22000: 2005	4	8	0		8	20
		20	40			64	144

## 6. Practical trainings (seminars)

№ п/п	Sections of disciplines and occupations	In This section	Hours
1.	Tasks and objectives	Elements of the history of certification. Properties of products as the certification of the object. Factors shaping the consumer properties of the product. products and production processes requirements. The specifics of teaching ecological disciplines: modern methods of analysis	4
2.	Voluntary and mandatory conformity assessment	Forms of conformity. Voluntary confirmation of compliance. Signs of conformity of voluntary certification. Mandatory	4

		confirmation of compliance.	
3.	Participants and certification procedure for its implementation	Certification participants. The rights and obligations of the applicant. OS functions during the compulsory certification. reference mark on the market. Import of Russian products subject to mandatory conformity assessment and acceptance of the Russian Federation the results of conformity assessment abroad.	4
4.	Foreign certification systems	General information about the organs and systems of conformity (international and regional certification). National certification system developed countries. Quality as the main criterion for certification in the European Union. Regional and international organizations for the certification of quality systems.	4
5.	Certification of quality systems ISO 9000	The emergence of certificates of conformity for quality assurance system. Problems of standardization and certification of quality management systems. Certification of production. Certification services	4
6.	International standardization in the field of environmental protection	International Organization for Standardization ISO: structure, objectives, activities, modernization. ISO 14000 as the international environmental management system standard. The participation of Russia in international standardization.	4
7	Environmental certification	The development of environmental certification in Russia. Mandatory certification on environmental requirements. Voluntary certification.	4
8	Environmental labeling	Signs of conformity. Demonstration of compliance with environmental requirements. Eco-labeling in the EU. Eco-labeling in Russia.	4
9	Certification of the integrated system of safety management and quality management of food products on the basis of the process approach ISO 22000: 2005	Gaasp system in the EU. Gaasp in Russia. Development of the safety management system of food products in accordance with ISO 22000: 2005	8

## 8. Material and technical support of the discipline:

Projector

## 9. Information support of the discipline

database, information and search engines

[www.e-library.ru](http://www.e-library.ru)

[www.science-direct.com](http://www.science-direct.com)

[www.google.ru](http://www.google.ru)

## 10. The educational-methodical and informational support of the discipline:

a) Main literature

Guidelines for Single Laboratory Validation of Chemical Methods for Dietary Supplements and Botanicals

[http://www.aoac.org/aoac\\_prod\\_imis/AOAC\\_Docs/StandardsDevelopment/SLV\\_Guidelines\\_Dietary\\_Supplements.pdf](http://www.aoac.org/aoac_prod_imis/AOAC_Docs/StandardsDevelopment/SLV_Guidelines_Dietary_Supplements.pdf)

THE CONCEPTS OF STANDARDS, CERTIFICATION AND LABELLING

<http://www.fao.org/docrep/006/y5136e/y5136e07.htm>

б) Additional literature

Edward Nemeroff Standards, Metrology, Conformity Assessment and The TBT Agreement A Desk Top Reference Handbook

Magali A. Delmas, Laura E. Grant Eco-labeling Strategies and Price-Premium: The Wine Industry Puzzl Forthcoming Business & Society

<http://www.google.ru/url?sa=t&rct=j&q=&esrc=s&source=web&cd=20&ved=0ahUKEwj8jNb9ucjPAh>

WBHSwKHZV5BYg4ChAWCGEwCQ&url=http%3A%2F%2Fwww.environment.ucla.edu%2Fperch%2Fresources%2Fdelmas-grant-bas.pdf&usg=AFQjCNHXIVcj8o-8lwnYAkC8j9pj-GlMVg&cad=rjt  
Janusz Swiatczak Sanitary surveillance of materials in contact with water intended for consumption 2008

[http://www.sanepid.opole.pl/userfiles/file/departament%20Higieny%20%20C5%9Arodowiska%20JUPIK/twinning%20project/J\\_SWIATCZAK\\_ENG.ppt#256,1](http://www.sanepid.opole.pl/userfiles/file/departament%20Higieny%20%20C5%9Arodowiska%20JUPIK/twinning%20project/J_SWIATCZAK_ENG.ppt#256,1), Слайд 1

### **11. Methodical instructions for students on mastering the discipline (module)**

The course content is appropriate to consider in the form of three modules:

- 1) raw material certification principles, processes and services;
- 2) Modern problems of certification in the Russian Federation;
- 3) Actual certification of facilities, problems and methods of their quality audit, identification and authentication.


### **12. Fund of assessment tools for intermediate certification of students in the discipline (module)**

Materials for assessing the level of mastering the educational material of the discipline "Product certification according the international environmental standards" (evaluation materials), including a list of competencies indicating the stages of their formation, a description of indicators and criteria for evaluating competencies at various stages of their formation, a description of the assessment scales, typical control tasks or other materials necessary to assess knowledge, skills, skills and (or) experience of activity, characterizing the stages of the formation of competencies in the process of mastering the educational program, methodological materials that determine the procedures for assessing knowledge, skills, skills and (or) experience of activities that characterize the stages of the formation of competencies are developed in full and are available for students on the discipline page at TUIS RUDN.

The program has been drawn up in accordance with the requirements of the ES of HE RUDN University.

**Developer:**

Professor Department of System Ecology



Kalabin GA

**Head of the program**

Head of the Department of  
Forensic ecology with the course of human ecology



Chernykh N.A.