

**Ministry of Education and Science of Ukraine
Dnipro University of Technology**

**MINING FACULTY
DEPARTMENT OF TRANSPORT SYSTEMS AND TECHNOLOGIES**

“APPROVED”

Head of Department

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“ ____ ” _____ 2018

WORK PROGRAM OF THE ACADEMIC DISCIPLINE

" Safety in the oil and gas industry"

Field of study.....	18 Production and Technology
Specialty.....	185 Oil and Gas Engineering and Technology
Academic degree.....	Bachelor
Academic program.....	Oil and Gas Engineering and Technology
Language of study.....	English

Prolonged: for 20 __ / 20__ academic year _____ (_____) " __ " __ 20__.

(Signature, name, date)

for 20 __ / 20__ academic year _____ (_____) " __ " __ 20__.

(Signature, name, date)

Dnipro
NTU “DP”
2018

Work program of the academic discipline “Safety in the oil and gas industry” for bachelor’s specialty 185 “Oil and Gas Engineering and Technology” / NTU “Dnipro Polytechnic” Department of safety and civil security. - DA: NTU «DP» 2018 - 13 p.

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The work program regulates:

- key goals and objectives;
- the disciplinary learning outcomes generated through the transformation of the intended learning outcomes of the degree program;
- the content of the discipline formed according to the criterion “disciplinary learning outcomes”;
- the discipline program (thematic plan by different types of classes);
- distribution of the discipline workload by different types of classes;
- an algorithm for assessing the level of achievement of disciplinary learning outcomes (scales, tools, procedures and evaluation criteria);
- criteria and procedures for evaluating the academic achievements of applicants by discipline;
- the contents of the educational and methodological support of the discipline;

The work program is designed to implement a competency approach in planning an education process, delivery of the academic discipline, preparing students for control activities, controlling the implementation of educational activities, internal and external quality assurance in higher education, accreditation of degree programs within the specialty.

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1 DISCIPLINE OBJECTIVES

In the educational and professional programs of the Dnipro University of Technology specialty 185 “Oil and gas engineering and technology”, the distribution of program learning outcomes (NRN) for the organizational forms of the educational process is done. In particular, the following learning outcomes are attributed to the discipline F19 "Safety in the oil and gas industry":

ZR8	Demonstrate skills exercise safe operation of oil and gas facilities.
SR9	Create items flowsheets and technical equipment of production, transportation and storage of oil and gas
SR13	Plan and organize the work of the structural unit of oil and gas company in accordance with the requirements of life safety, occupational safety and environmental protection

The objective of discipline - provide professionals theoretical knowledge and practical skills necessary to make decisions aimed at protecting workers from harmful and hazardous working environment factors related to their future professional activity in the oil and gas industry.

The implementation of the objective requires transforming program learning outcomes into the disciplinary ones as well as an adequate selection of the contents of the discipline according to this criterion.

2 INTENDED DISCIPLINARY LEARNING OUTCOMES

Code NRN	Disciplinary learning outcomes (DRN)	
	DRN code	content
ZR8	ZR8- F19-1	legislative and work out regulations on health and safety in the oil and gas industry
	ZR8- F19-2	develop a system of production control and safety of the enterprise (organization)
	ZR8- F19-3	develop regulations of oil and gas industry
	ZR8- F19-4	planning safety measures on oil facilities
	ZR8- F19-5	identify, assess and reduce the risks of dangerous events in the oil and gas facilities
	ZR8- F19-6	that the principles of social responsibility and establish requirements to ensure safety in the structure of social responsibility
SR9	SR9-F19-1	develop technical and organizational measures for the prevention of accidents and occupational diseases in oil and Gas
	SR9-F19-2	develop measures for fire safety of technological equipment, electrical, heating, ventilation and air conditioning
	SR9-F19-3	determine the class accommodations on fire danger
	SR9-F19-4	identify areas for explosive class risk
	SR9-F19-5	develop plans for localization and liquidation of emergencies and accidents on oil facilities
	SR9-F19-6	conduct investigations and records of accidents, occupational diseases and accidents at work
SR13	SR13-F19-1	organize and conduct research on labor protection at the enterprises of oil and gas industry
	SR13-F19-2	implement the basic principles of state supervision (control) of economic activity in oil and gas industry enterprises
	SR13-F19-3	provide legal, financial and organizational aspects of compulsory social

Code NRN	Disciplinary learning outcomes (DRN)	
	DRN code	content
		insurance
	SR13-F19-4	provide guarantees of working people for their social protection in case of temporary disability, maternity, accident and occupational disease, life and health
	SR13-F19-5	analyze working conditions on indicators of hazards and hazard factors of industrial environment
	SR13-F19-6	analyze working conditions on indicators of severity and intensity of the work process

3 BASIC DISCIPLINES

Subjects	The acquired learning outcomes
Physics	Use basic concepts, the basic laws of physics and chemistry for forecasting and analysis of physical and chemical properties of oil, condensate and natural gas in their production, drilling, transportation and storage
Chemistry	
Transport systems and technology	
Fundamentals of transport and storage of hydrocarbons	
Fundamentals of Oil and Gas business	Explain the general structure, relationships and functionality of individual elements of the system of Ukraine hydrocarbons
Ukrainian language	Communicate official language

4 WORKLOAD DISTRIBUTION BY THE FORM OF EDUCATIONAL PROCESS ORGANIZATION AND TYPES OF CLASSES

Type of classes	Workload hours	Distribution by forms of education, <i>hours</i>					
		Full-time		Part-time		Distance	
		Classes (C)	Individual work (IW)	Classes (C)	Individual work (IW)	Classes (C)	Individual work (IW)
Lectures	60	26	34	26	34	2	58
Practical	30	12	18	12	18	2	28
Laboratory	-	-	-	-	-	-	-
Workshops	-	-	-	-	-	-	-
Total	90	38	52	38	52	4	86

5 DISCIPLINE PROGRAM BY TYPES OF CLASSES

Ciphers DRN	Types and topics of training sessions	The volume of components, <i>hours</i>
	LECTURES	60
	1. Organizational matters. Introduction	4
ZR8- F19-	2. International standards on occupational safety	6

Ciphers DRN	Types and topics of training sessions	The volume of components, hours
1ZR8- F19-3	Social partnership (social dialogue) in public works. Social partnership as a principle of legislative and regulatory framework of labor protection. Social dialogue in the European Union. Occupational safety as an integral part of social responsibility. Definitions and basic principles of social responsibility. International standards of social responsibility. Standard SA 8000 "Social Responsibility". The international standard ISO 26000 "Guidance on social responsibility". Requirements to ensure safety in the structure of social responsibility. The legal basis for the EU on health. Occupational Health - part of EU social policy. EU Directive on health. Framework Directive 89/391 / EC "On the introduction of measures to help improve the safety and health of workers' .Trudovi norms of the International Labor Organization. ILO Conventions and Recommendations. The main ILO Conventions on occupational pratsi.Mizhnarodne cooperation in the field of labor. The main areas of cooperation. United Nations. World Health Organization. International Atomic Energy Agency. International Labor Organization. European Union. Commonwealth of Independent States.	
ZR8- F19-3	<p>3. Main laws and regulations on health and safety in the petroleum industry</p> <p>Legislation and regulations on health and safety in the industry. Pointer regulations on safety. Sectoral programs for improving safety, hygiene and working environment. Regulations on the organization of safety management in the industry.</p>	4
ZR8- F19-2 ZR8- F19-3 ZR8- F19-4 SR13-F19-5	<p>4.Systema production management and safety in the organization</p> <p>Basic requirements for construction and operation safety management (SUVOP). The functioning and construction SUVOP organization. SUVOP Regulation on the structure and content of his rozdiliv.Elementy safety management, international standard OHSAS 18001: 2007. Policy on occupational safety. Planning. Implementation and operation SUVOP. Checking and corrective action. Analysis of the kerivnytstva.Prymirnyy allocation of responsibilities for health and safety managers, officials and experts of the industry. Priority security functions. Efficiency SUVOP functional structure. Integrated management of occupational safety. Key components of the integrated system management. Functional and organizational osoblyvosti.Haluzevi safety management. The purpose and principles of operation. The organizational and functional structure SUVOP.Rehionalni safety management, objectives, principles and basic functions. Service work of local state administrations and local governments.</p>	6
ZR8- F19-5 SR9-F19-	5. Injuries and diseases in the area. Investigations of accidents.	6

Ciphers DRN	Types and topics of training sessions	The volume of components, <i>hours</i>
6SR13-F19- 5SR13-F19-6	<p>Terms and definitions. The purpose and task of investigating accidents. Duties of the employer to investigate accidents. The circumstances in which communication is carried out. Vstanovlennyya accidents and accounting vyrobnystvov. Rozsliduvannyya accidents, occupational diseases and chronic poisoning in the workplace. Investigations of accidents. A special investigation of accidents. Investigation of occupational diseases. Organization investigation commissions of inquiry and accounting dokumenty. Rozsliduvannyya major accidents. Investigation of incidents and nevidpovidnostey. Osoblyvosti investigation and recording of accidents outside work. Research and prevention of occupational injuries. Reporting and information about accidents, analyze their causes. The main causes of occupational injuries and diseases. The distribution of injury severity. Methods of production travmatyzmu. Osnovni technical and organizational measures for the prevention of accidents and occupational diseases in the industry.</p>	
	<p>6. Special Sections safety in professional activities</p> <p>The analysis of working conditions in the industry for performance harm and danger of working environment factors, severity and intensity of the work process. General requirements for safety in the industry. Safety requirements during operation of the main process equipment, the preparation of raw materials and the manufacture of products. Safety requirements for placement of equipment and maintenance jobs. Safety kontrolnovymiryuvalnyh devices, automated control systems, alarms and zv'yazku. Vymohy to the sanitary control of the air of the working area. Requirements for personal zahystu. Osoblyvosti measures electrical safety in enterprises haluzi. Vymohy to production and support facilities. The maintenance area of the industry. Features safety at repair work during vantazhnorozvantazhuvalnyh work. Requirements for safety during operation of heating, ventilation and air conditioning povitrya. Vymohy to certain categories of workers and the admission procedure of their work. Sanitation requirements for working conditions in the industry. Harmful chemicals, biological factors, industrial dust. Vibration, noise, infrasound, ultrasound. Production of radiation. The microclimate of working area. Gravity works: dynamic, static load. The intensity of labor. Attention tension analyzer functions, emotional and intellectual intensity, monotony of work. Production of radiation. The microclimate of working area. Gravity works: dynamic, static load. The intensity of labor. Attention tension analyzer functions, emotional and intellectual intensity, monotony of work. Production of radiation. The microclimate of working area. Gravity works: dynamic, static load. The intensity of labor. Attention tension analyzer functions, emotional and intellectual intensity, monotony of work.</p>	6
SR13-F19-	Actual problems of safety research	6

Ciphers DRN	Types and topics of training sessions	The volume of components, <i>hours</i>
1SR13-F19-5	Safety requirements for laboratory facilities and equipment for scientific research and doslidzhen.Orhanizatsiya major scientific challenges in the field of labor. The scientific basis of labor protection. National Research Institute of Industrial health and safety, industry research institutes on health, departments and laboratories on health sector research institutes. Department of Labor Protection and other units of higher education. Programs for improving safety, hygiene and working environment. State (National), sectoral, regional prohramy.Analiz occupational and industrial risks. Analysis, prediction, prevention of injuries and occupational diseases. The purpose and methods of analysis. Using statistical reporting and investigating acts accidents and occupational diseases in analytical work. Indicators of frequency and severity of injuries. Automated safety management, accounting, analysis and investigation of accidents.	
SR9-F19-1 SR9-F19-2 SR9-F19-3 SR9-F19-4	<p>8. The main measures for fire prevention of oil and gas industry</p> <p>Classes production and storage facilities for explosives and fire hazard. Fire resistance of building structures and obstacles materialiv.Protypozhezhni. Ensuring the safe evacuation of personnel. Fire safety of technological equipment, electrical, heating, ventilation. State fire control. Fire prevention in the design and operation of industrial sites, buildings, structures, technological obladnannya.Pozhezhna signaling and communications. Extinguishing fires. Fire water supply. The primary means of fire. Automatic fire-fighting facilities in the industry.</p>	4
ZR8- F19-6 SR13-F19-2	<p>9. State supervision and control as public safety</p> <p>Bodies of state oversight of safety. Basic principles of state supervision (control) of economic diyalnosti.Derzhpratsi. The rights and responsibilities of officials Derzhpratsi. The list of issues for the planning of state supervision in the field of industrial safety and health pratsi.Provedennya State Labor Inspection. Types and basic parameters of supervisory measures.</p>	6
ZR8- F19-6 SR13-F19-3 SR13-F19-4	<p>10. Social insurance against accidents and occupational diseases in manufacturing</p> <p>Task accident insurance. Principles and types strahuvannya.Sub'yekty and objects of insurance. Insurance. Insurance risk and insurance case. Social insurance against accidents. The Board of Directors. Executive Board of the Fund. Insurance experts on health, their functions and powers. Financing of insurance payments, social services and preventive measures. Sources of financing the Fund. Insurance rates. Insurance payments. Duties and rights of accident insurance. Obligations Fund. The rights and obligations of the insured person. The rights and obligations of the employer as the policyholder.</p>	4
SR9-F19-	11. The localization and liquidation of emergencies and accidents	4

Ciphers DRN	Types and topics of training sessions	The volume of components, hours
1SR9-F19- 5SR9-F19- 3SR9-F19-4	Planning measures for safety. Types of planning and control of occupational safety. Identification, assessment and reduction of risk of hazardous events. Accounting and analysis of safety performance. Plans localization and liquidation of emergencies and accidents. Purpose and main parameters plans. The analytical and operative part of the plan.	
	12. The final lecture. Results	4
	PRACTICAL TRAINING	30
SR13-F19- 5SR13-F19-1	1. Calculation of the air conditioning system.	4
SR13-F19- 5SR13-F19-1	2. Calculation of ventilation of industrial premises.	6
SR13-F19- 5SR13-F19-1	3. Calculation of artificial lighting production facilities.	6
SR9-F19-6	4. Investigation of accidents in the industry.	6
ZR8- F19- 1SR13-F19-3	5. Study of the Law of Ukraine "On compulsory state social insurance"	4
SR13-F19- 3SR13-F19-4	6. Procedure for determining the size of payments to the fund for accidents at work.	4
TOTAL		90

6 KNOWLEDGE PROGRESS TESTING

Certification of student achievement is accomplished through transparent procedures based on objective criteria in accordance with the University Regulations "On Evaluation of Higher Education Applicants' Learning Outcomes".

The level of competencies achieved in relation to the expectations, identified during the control activities, reflects the real result of the student's study of the discipline.

6.1 GRADING SCALES

Assessment of academic achievement of students of the Dnipro University of Technology is carried out based on a rating (100-point) and institutional grading scales. The latter is necessary (in the official absence of a national scale) to convert (transfer) grades for mobile students.

The scales of assessment of learning outcomes of the NTUDP students

Rating	Institutional
90 ... 100	Excellent
74 ... 89	Good
60 ... 73	Satisfactory
0 ... 59	Failed

Discipline credits are scored if the student has a final grade of at least 60 points. A lower grade is considered to be an academic debt that is subject to liquidation in accordance with the Regulations on the Organization of the Educational Process of NTUDP.

6.2 DIAGNOSTIC TOOLS AND EVALUATION PROCEDURES

The content of diagnostic tools is aimed at controlling the level of knowledge, skills, communication, autonomy, and responsibility of the student according to the requirements of the National Qualifications Framework (NQF) up to the 7th qualification level during the demonstration of the learning outcomes regulated by the work program.

During the control activities, the student should perform tasks focused solely on the demonstration of disciplinary learning outcomes (Section 2).

Diagnostic tools provided to students at the control activities in the form of tasks for the intermediate and final knowledge progress testing are formed by specifying the initial data and a way of demonstrating disciplinary learning outcomes.

Diagnostic tools (control tasks) for the intermediate and final knowledge progress testing are approved by the appropriate department.

Type of diagnostic tools and procedures for evaluating the intermediate and final knowledge progress testing are given below.

Diagnostic and assessment procedures

INTERMEDIATE CONTROL			FINAL ASSESSMENT	
training sessions	diagnostic tools	procedures	diagnostic tools	procedures
lectures	control tasks for each topic	task during lectures	comprehensive reference work (CCW)	determining the average results of intermediate controls;
practical	control tasks for each topic	tasks during practical classes		CCW performance during the examination at the request of the student
	or individual task	tasks during independent work		

During the intermediate control, the lectures are evaluated by determining the quality of the performance of the control specific tasks. Practical classes are assessed by the quality of the control or individual task.

If the content of a particular type of teaching activity is subordinated to several descriptors, then the integral value of the assessment may be determined by the weighting coefficients set by the lecturer.

Provided that the level of results of the intermediate controls of all types of training at least 60 points, the final control can be carried out without the student's immediate participation by determining the weighted average value of the obtained grades.

Regardless of the results of the intermediate control, every student during the final knowledge progress testing has the right to perform the CDF, which contains tasks covering key disciplinary learning outcomes.

The number of specific tasks of the CDF should be consistent with the allotted time for completion. The number of CDF options should ensure that the task is individualized.

The value of the mark for the implementation of the CDF is determined by the average evaluation of the components (specific tasks) and is final.

The integral value of the CDF performance assessment can be determined by taking into account the weighting factors established by the department for each NLC descriptor.

6.3 EVALUATION CRITERIA

The actual student learning outcomes are identified and measured against what is expected during the control activities using criteria that describe the student's actions to demonstrate the achievement of the learning outcomes.

To evaluate the performance of the control tasks during the intermediate control of lectures and practicals the assimilation factor is used as a criterion, which automatically adapts the indicator to the rating scale:

$$O_i = 100 a / m,$$

where a - number of correct answers or significant operations performed according to the solution standard; m - the total number of questions or substantial operations of the standard.

Individual tasks and complex control works are expertly evaluated using criteria that characterize the ratio of competency requirements and evaluation indicators to a rating scale.

The content of the criteria is based on the competencies identified by the NLC for the Bachelor's level of higher education (given below).

General criteria for achieving learning outcomes 7th qualification for LDCs (BA)

Integral competence is the ability to solve complex problems and specialized practical problems in a particular area of professional activities or in a learning process that involves the use of certain theories and methods of the relevant scientific areas and characterized by complexity and conditions uncertainty.

descriptors NLC	Requirements for knowledge, communication, autonomy and responsibility	Indicator evaluation
Knowledge		
♦ Conceptual knowledge acquired during the training and professional activities, including some	- A great - proper, reasonable, sensible. Measures the presence of: - conceptual knowledge; - a high degree of state ownership issues; - critical understanding of the main theories, principles, methods and concepts in education and careers	95-100

descriptors NLC	Requirements for knowledge, communication, autonomy and responsibility	Indicator evaluation
knowledge of modern achievements; ♦ critical understanding of the main theories, principles, methods, and concepts in education and careers	A non-gross contains mistakes or errors	90-94
	The answer is correct but has some inaccuracies	85-89
	A correct some inaccuracies but has also proved insufficient	80-84
	The answer is correct but has some inaccuracies, not reasonable and meaningful	74-79
	A fragmentary	70-73
	A student shows a fuzzy idea of the object of study	65-69
	Knowledge minimally satisfactory	60-64
	Knowledge unsatisfactory	<60
Ability		
♦ solving complex problems and unforeseen problems in specialized areas of professional and/or training, which involves the collection and interpretation of information (data), choice of methods and tools, the use of innovative approaches	- The answer describes the ability to: - identify the problem; - formulate hypotheses; - solve problems; - choose adequate methods and tools; - collect and interpret logical and understandable information; - use innovative approaches to solving the problem	95-100
	The answer describes the ability to apply knowledge in practice with no blunders	90-94
	The answer describes the ability to apply knowledge in practice but has some errors in the implementation of a requirement	85-89
	The answer describes the ability to apply knowledge in practice but has some errors in the implementation of the two requirements	80-84
	The answer describes the ability to apply knowledge in practice but has some errors in the implementation of the three requirements	74-79
	The answer describes the ability to apply knowledge in practice but has some errors in the implementation of the four requirements	70-73
	The answer describes the ability to apply knowledge in practice while performing tasks on the model	65-69
	A characterizes the ability to apply knowledge in performing tasks on the model, but with uncertainties	60-64
	The level of skills is poor	<60
Communication		
♦ report to specialists and non-specialists of information, ideas, problems, solutions and their experience in the field of professional activity; ♦ the ability to form an effective communication strategy	- Fluent problematic area. Clarity response (report). Language - correct; - - net; - - clear; - - accurate; - - logic; - - expressive; - - concise. Communication strategy: coherent and consistent development of thought; availability of own logical reasoning;	95-100

descriptors NLC	Requirements for knowledge, communication, autonomy and responsibility	Indicator evaluation
	relevant arguments and its compliance with the provisions defended; the correct structure of the response (report); correct answers to questions; appropriate equipment to answer questions; the ability to draw conclusions and formulate proposals	
	Adequate ownership industry issues with minor faults. Sufficient clarity response (report) with minor faults. Appropriate communication strategy with minor faults	90-94
	Good knowledge of the problems of the industry. Good clarity response (report) and relevant communication strategy (total three requirements are not implemented)	85-89
	Good knowledge of the problems of the industry. Good clarity response (report) and relevant communication strategy (a total of four requirements is not implemented)	80-84
	Good knowledge of the problems of the industry. Good clarity response (report) and relevant communication strategy (total not implemented the five requirements)	74-79
	Satisfactory ownership issues of the industry. Satisfactory clarity response (report) and relevant communication strategy (a total of seven requirements not implemented)	70-73
	Partial ownership issues of the industry. Satisfactory clarity response (report) and communication strategy of faults (total not implemented nine requirements)	65-69
	The fragmented ownership issues of the industry. Satisfactory clarity response (report) and communication strategy of faults (total not implemented 10 requirements)	60-64
	The level of poor communication	<60
Autonomy and responsibility		
<ul style="list-style-type: none"> ◆ management actions or complex projects, responsible for decision-making in unpredictable conditions; ◆ responsible for the professional development of individuals and/or groups ◆ the ability to continue study with a high degree of autonomy 	<ul style="list-style-type: none"> - Excellent individual ownership management competencies focused on: 1) management of complex projects, providing: <ul style="list-style-type: none"> - exploratory learning activities marked the ability to independently evaluate various life situations, events, facts, detect and defend a personal position; - the ability to work in a team; - control of their own actions; 2) responsibility for decision-making in unpredictable conditions, including: <ul style="list-style-type: none"> - justify their decisions the provisions of the regulatory framework of sectoral and national levels; - independence while performing tasks; - lead in discussing problems; - responsibility for the relationship; 3) responsible for the professional development of individuals and/or groups that includes: <ul style="list-style-type: none"> - use of vocational-oriented skills; - the use of evidence from independent and correct reasoning; - possession of all kinds of learning activities; 	95-100

descriptors NLC	Requirements for knowledge, communication, autonomy and responsibility	Indicator evaluation
	4) the ability to further study with a high degree of autonomy, which provides: - degree possession of fundamental knowledge; - independent evaluation judgments; - high level of formation of general educational skills; - search and analysis of information resources	
	Confident personality possession competency management (not implemented two requirements)	90-94
	Good knowledge management competencies personality (not implemented three requirements)	85-89
	Good knowledge management competencies personality (not implemented the four requirements)	80-84
	Good knowledge management competencies personality (not implemented six requirements)	74-79
	Satisfactory ownership of individual competence management (not implemented seven requirements)	70-73
	Satisfactory ownership of individual competence management (not implemented eight claims)	65-69
	The level of autonomy and responsibility fragmented	60-64
	The level of autonomy and responsibility poor	<60

7 TOOLS, EQUIPMENT, AND SOFTWARE

Technical training tools via multimedia software.
Distance learning platform Moodle.

8 RECOMMENDED SOURCES

Basic laws and regulations

1. The Law of Ukraine "On Labor Protection".
2. Labor Code of Ukraine.
3. Code of Civil Protection of Ukraine.
4. The Law of Ukraine "Fundamentals of legislation of Ukraine about health care."
5. The Law of Ukraine "On Nuclear Energy Use and Radiation Safety".
6. The Law of Ukraine "On ensuring sanitary and epidemiological welfare."
7. The Law of Ukraine "On compulsory state social insurance."
8. The Law of Ukraine "On Principles of State Supervision (Control) of economic activity."
9. The Law of Ukraine "On licensing system in the sphere of economic activity".
10. Cabinet of Ministers of Ukraine dated 17.04.2019 r.№ 337 "Procedure for investigation and registration of accidents, occupational diseases and accidents at work."
11. NPAOP 0.00-4.03-04 "Regulations on the State Register of regulations on safety." Gosnadzorohrantruda Order of 08.06.2004 p. 151 number.
12. NPAOP 0.00-4.09-07 "Model Regulations of the Commission on health enterprise." OSH Order of 21.03.2007. Number 55.

13. NPAOP 0.00-4.11-07 "Model Regulations on the activities of persons authorized employees on safety." OSH Order of 21.03.2007. Number 56.
14. NPAOP 0.00-4.12-05 "Model Regulations on the procedure for training and testing on safety." Gosnadzorohrantruda Order dated 26.01.2005. Number 15.
15. NPAOP 0.00-4.15-98 "Regulations on the development of labor protection instructions." Gosnadzorohrantruda Order of 29.01.1998 p. 9 number.
16. NPAOP 0.00-4.21-04 "Model Regulations on Labor Protection Service." Gosnadzorohrantruda Order of 15.11.2004 p. 255 number.
17. NPAOP 0.00-4.33-99 "Regulations on the development of plans for localization and liquidation of emergencies and accidents. Gosnadzorohrantruda Order of 17.06.1999 p. 112 number.
18. NPAOP 0.00-6.03-93 "Order processing and approval of the owner of the regulations on occupational safety, operating at the company." Gosnadzorohrantruda Order of 21.12.1993 p. 132 number.
19. NPAOP 0.00-6.13-05 "procedure of state Labor Protection and Mining Supervision system Gosnadzorohrantruda Ukraine." Gosnadzorohrantruda Order of 30.03.2004 p. 92 number.
20. Recommendations for the organization of the office of industrial safety and health. Approved Head OSH 16.01.2008.
21. Recommendations for the construction, implementation and improvement of safety management. Approved Head OSH 07.02.2008 p.

Basic literature

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7. Zhelibio EP, NI Baranov, VV Kovalenko Safety in the state tax service. Teach. manual for high schools. Irpen. - 2002.
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9. Safety in construction: manual. guidances. manual / edited by BM cakes Ivanov and V. - Kharkiv Fort, 2010. - 388 p.
10. Berezyuk OV Lemeshev MS Healthwork in the field of radio: Training. guidances. - Ball, NTB, 2009. - 159 p.
11. Jaroszevska VM, Shepherd V. Safety in the construction industry: Training. guidances. - Exactly: NUWMNRU, 2005. - 313s.

12. Batluk VA Healthwork in telecommunications: Training. guidances. - Lviv: Bill, 2003. - 320 p.

Further Reading

1. DBN V.2.5-28-2006 "Natural and artificial lighting."
2. STATE STANDARDS 3.3.6.096-2002 State sanitary rules and regulations when dealing with sources of electromagnetic fields
3. SDS 3.3.6.042-99 Sanitary norms of microclimate of industrial premises.
4. SDS 3.3.6.037-99 sanitary standards of industrial noise, infrasound and ultrasound.
5. SDS 3.3.6.039-99 Public health standards of industrial general and local vibration
6. NPAOP 0.00-1.28-10 safety rules during operation of computers. OSH Order of 26.03.2010r. number 65
7. NPAOP 0.00-2.23-04 "The list of means and measures for safety, and the costs of acquisition are deductible expenses." Cabinet of Ministers of Ukraine of 27 June 2003 r. Number 994.
8. NPAOP 0.00-8.24-05 "List of works with high-risk." Gosnadzorohrantruda Order dated 26.01.2005. Number 15.
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- <http://www.dsns.gov.ua>** - Official site of the State Service for Emergency Situations.
- <http://www.fssu.gov.ua>** -Official website of the Social Insurance Fund of Ukraine.
- <http://www.rada.gov.ua>** - The official website of the Verkhovna Rada of Ukraine.
- <http://base.safework.ru/iloenc>** Encyclopedia on Labor Protection and security ILO.
- <http://base.safework.ru/safework>** -Library bezopasnoho ILO labor.
- <http://www.nau.ua>** (NAU)." -Information retrieval legal system "Statutory acts of Ukraine (NAU)."

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