

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL TECHNICAL UNIVERSITY  
"Dnepr Polytechnic"



**PROGRAM AND GUIDELINES  
TO PERFORM QUALIFYING WORK  
Bachelor's degree  
185 specialty "Oil and Gas Engineering and Technologies"**

Dnipro  
NTU "SE"  
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Methodical commission approved 185 specialty Oil Engineering and Technology (Minutes № 8 of 21.11.19r.) On the proposal of the department of oil and gas drilling and engineering (protocol number 4 from 12.11.19r.).

Posted guidance, structure and order of the qualification of Bachelor's degree 185 "Oil and gas engineering and technology."

The structure and content of the explanatory notes and requirements Demonstration of the material qualification. Evaluation criteria are regulations and powers of qualifying participants certification.

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## PREFACE

Recommendations are for Bachelors specialty 185 Oil Engineering and Technology Enrolled in educational and professional program "Oil Engineering and Technology".

Recommendations developed based on the regulations of the State:

- Law of Ukraine "On Higher Education" [Electronic resource].  
URL: <https://zakon.rada.gov.ua/laws/show/1556-18> (Date of appeal: 05/17/2019).

- NQF. <https://zakon.rada.gov.ua/laws/show/1341-2011-%D0%BF>

- Cabinet of Ministers of Ukraine of 30 December 2015 r. 1187 number "Licensing conditions for educational activities of educational institutions."  
<https://zakon.rada.gov.ua/laws/show/1187-2015-%D0%BF>

User Guide ECTS [electronic resource].

URL: [http://mdu.in.ua/Ucheb/dovidnik\\_koristuvacha\\_ekts.pdf](http://mdu.in.ua/Ucheb/dovidnik_koristuvacha_ekts.pdf) (Date of appeal: 05/17/2019).

- ISO 3008: 2015. Reports in science and technology. The structure and rules of formlyuvannya.

- ISO 8302: 2015. The citation. Terms and rules of assembly.

The recommendations take into account the following regulations of the university:

- Regulations on assessment of learning outcomes seekers of higher education (as amended, approved by the Academic Council of NTU "Dnepr Polytechnic" from 18.09.2018, from 12.11.2018).

- Terms and conditions of practice candidates Higher Education National Technical University "Polytechnic Dnepr" approved by the Academic Council of 11.12.2018, Minutes №15.

- Regulations on the organization of certification applicants state higher education institutions "NSU", approved by the Academic Council 12.11.2018 (Protocol №15).

- Regulations on the system of prevention and detection of plagiarism at the National Technical University "Polytechnic Dnepr", approved by the Academic Council 06.13.2018, protocol №8.

- Regulations on training and methodological support of the educational process of higher education applicants National Technical University "Polytechnic Dnepr" 01.22.2019 approved by the Academic Council, protocol №2.

- Layout guidelines to carry out qualifying works: meth. guidances. for NV-ped. WORKER. / VA Salov; Nat. Sc. University of "Dnepr Polytechnic". - DA: NTU "SE", 2019. - 48 p.

- Regulations on the organization of the educational process of the National Technical University "Polytechnic Dnepr" approved Academic Council of NTU "SE" vi9 10.25.2019 (protocol number 20).

## INTRODUCTION

Certification bachelors enrolled in educational and professional program "Oil Engineering and Technology" specialty 185 Oil and gas engineering and technology, is in the form of public protection (demonstration) qualifying work. Ground №224ah Order of 16/11/18 on the development of educational programs, curricula and working programs of disciplines accession candidates in 2019 NTU "SE".

During certification candidates higher education qualification work is the primary means of diagnosis of formation of special (professional) competence.

Certification Bachelor NTU "Dnepr Polytechnic" Examining Board conducted according to the standards of higher education and the educational program of a certain specialty after the student curriculum.

Bachelor certification procedure is carried out according to the "Regulations on the organization of certification candidates Higher Education National Technical University" Dnepr Polytechnic".

Content Bachelor appraisal focused on the diagnosis of theoretical knowledge and practical skills that are sufficient for the successful performance of professional duties by specialty.

The graduating university department no later than two weeks from the beginning of the qualifying deadlines of scheduled training process to prepare and provide to the Dean submission of approval themes qualification works in terms of higher education.

Submission defined themes qualification works in public and in English and managers of qualifying work.

Dean's office within a week after receiving the submission graduating department prepared a draft order approving the topics of qualification works.

Enforcement and protection of applicants qualifying higher education in the state language. Defense allowed foreign language. The decision on admission to the protection of foreign language takes a graduating department, prior to the examination board, according to the student and the presence of abstract, made the official language.

Preparing to perform qualifying work begins along with the educational process. Before leaving for the pre-practice student meets with the director, approves the topic and a list of necessary material to perform qualifying work and derives from the task manager.

If a student is not able to go practice on oil and gas company he receives the output data on performance of the manager and uses materials that are required in a database on graduating department.

Qualifying work can be complex (cathedral, intercathedral, Interuniversity) and implemented by several students. To perform complex operations qualifying appointed chief executive and directors of its individual parts.

List necessary material to perform qualification works in the guidelines are to undergo pre-practice. The amount of information required to perform the qualification of Bachelor, set supervisor.

The source of information is planned and actual indicators of economic activity,

observations, interviews and surveys and other methods of collecting primary data used by the student during the pre-practice.

On the basis of student practices with head clarify previously proposed theme qualifying work and make its content.

Topics qualifying work approved by the Rector of the University.

Student performs work qualification at the university for individual consultations with the head of a prescribed time schedule.

Separately for each section of the qualification of consultants appointed by the departments where they carried out consultations to prepare the audience time to work in the computer center department. The students are provided reading and drawing rooms, library.

Each qualifying work should be assessed on the level of debt in accordance with the "Regulations on the system of prevention and detection of plagiarism at the National Technical University" Dnepr Polytechnic ".

# 1. PROGRAM IMPLEMENTATION qualifying work

## 1.1. Terms

The final stage of bachelors in the specialty 185 Oil Engineering and Technology is the fulfillment of the qualification.

Qualifying work is a comprehensive document that completes the phase of training at the university and the applicant is a collection of drawings and specifications, calculations and explanations, technical documents required in solving specific engineering and economic objectives set out in the educational qualification characteristics of specialists in Oil 185 engineering and technology, united by a common theme.

**Bachelor qualification work** consists of two parts: explanatory notes and demos.

**The purpose of the qualification:** Learn methods independent solution of engineering problems, processing and compilation of research results obtained by the integrated use in teaching knowledge and skills.

At this stage of training is individually developed schedule and program.

In the process of qualifying the student develops a technical design with a special part that includes traditional and new solutions in the oil and gas industry. When performing the qualification of materials must use pre practices of earlier course project and research work, as well as literature on professional disciplines. Output to perform qualifying work - real indices geological and mining conditions of development, mining technology, state safety and technical and economic performance of existing oil and gas companies.

### **Objectives of qualification**

Performance Qualification as a final stage of university studies raises the following tasks:

- systematization, consolidation and expansion of theoretical knowledge and skills necessary for independent solving specific problems;
- mastering techniques of design technology and hardware drilling and upgrading of equipment;
- consolidation of skills of independent work of students with the technical and economic literature, existing standards, specifications and guidelines;
- application of research skills and their use results in solving engineering problems;
- development of students' ability to make effective and economic solutions in the design of drilling technology, modernization, repair and maintenance of machinery and drilling equipment;
- consolidation of knowledge and skills expand application of mathematical methods for solving specific scientific or industrial problems.

## 1.2. Implementation of the program of qualification

Program implementation of qualification requires consistent implementation stages, namely:

1. Approval theme qualifying work.
2. Collection of material at the facility.

3. Approval theme qualifying work.
4. Work on qualifying work.
5. The interim report on the performance leader.
6. Making explanatory notes and a poster.
7. Obtaining quality of performance ratings and overall assessment sections.
8. Registration for admission to the qualification of protection.
9. Protection of qualification to the EC (examination board).

### 1.3. Subject qualifying works

The list of topics is developing graduation qualification works department before the start of the school year. The list should provide individualized tasks for qualifying work and free choice of a student of the subject.

The wording of the theme qualification must be specific and include process performance and product resulting performance.

Subject qualifying works of bachelors should be directly related to the competence and relevant learning outcomes that are regulated standard of higher education in the field of education and professional program.

Subject qualifying works of bachelors who attended AFP should enable implementation of descriptors National Qualifications Framework (NQF) - demonstrate in-depth cognitive and practical ability / skills, craftsmanship and innovation at the level required to solve complex and unpredictable problems in specialized areas of professional activity.

Educational and vocational program "Oil and gas engineering and technologies" defines the following learning outcomes:

CL6	Demonstrate the ability to independently acquire new knowledge using technical literature in paper and electronic media.
SR9	Design elements of technological schemes and technical equipment of production, transportation and storage of oil and gas.
SR11	To analyze the modes of operation of the constituent elements of oil and gas facility, to conduct an optimal range of equipment, perform the optimization of usage by certain criteria.
SR12	Evaluate the efficiency of base oil technology and technical devices using feasibility criteria.
SR14	Evaluate metanovuhilnyh gas-bearing deposits and create systems and technology for their development.

Block 1 "Construction of oil and gas wells" OPP "Oil and gas engineering and technology" regulates master bachelor of learning outcomes:

VR1.1	Create technology of drilling oil and gas wells
VR1.2	Build oil and gas wells
VR1.11	monitor organizational performance, efficiency, perfection and prospects of construction of oil and gas wells
VR1.12	Improve construction technology oil and gas wells and organizational activities in accordance with the requirements of modern production and



	competitive economy
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Block 2 "Transportation and storage of carbohydrate energy" OPP "Oil and gas engineering and technology" regulates master bachelor of learning outcomes:

VR2.1	Create elements of the technology transportation and storage of hydrocarbons
VR2.2	To determine the operating parameters and project managers flowsheets transport coal mines for specific mining and geological conditions
VR2.11	Monitor organizational performance, efficiency, perfection and prospects of gas and oil supply
VR2.12	Improve technology transportation and storage of hydrocarbons and organizational activities in accordance with the requirements of modern production and competitive economy

Thus, the format of qualifying topics should include qualifying work object, product, process performance and specification if necessary - other aspects of the structure work.

According to the program learning outcomes the Department of Petroleum Engineering and drilling propose the following themes typical of the qualification: "Development of technology for drilling (at)" ... ".

When performing the qualification of the said subject is understood that depending on the specific conditions comprehensively solved methodical, technical, organizational and economic problems of drilling oil and gas wells defined areas of mineral deposits.

The student has the right to propose its own theme qualifying work within the range of competencies for the profession 185 Oil and gas engineering and technology.

## 2 Structure and explanatory notes CONTENTS

The structure of the explanatory note qualification of Bachelor must meet ISO 3008: 2015 "Information and documentation. Reports in science and technology. The structure and rules of formlyuvannya. "

Explanatory note conventionally divided into:

- introductory part;
- the main part;
- applications.

Materials and documentation to defend qualification work is presented at the end of the qualifying text.

### 2.1 Introduction

Part contains the following elements: title page, reference for qualifying work, abstract, content, and reducing conventional poznaky.

**Form cover sheet and objectives** Qualification work listed in Annexes A and B.

**Abstract** placed directly on the title page. It should include:

– information about the amount of work, figures, tables, appendices, sources in accordance with the list of links;

- list of keywords;
- a brief description of the qualifying text.

Information is in order:

– facility development;

– the goal of the work;

– results and innovation;

– basic design, technology and technical and operational characteristics and performance;

– Information on implementation (if any);

– relationship with other works;

– Recommendations for the use of work;

– scope;

– economic or socio-economic efficiency;

– significance of the work;

– conclusions, proposals for development of the object.

The list of keywords that are crucial for the qualification of disclosure must include 5 ... 15 words (phrases) submitted before the text of the abstract in capital letters in line with the direct word order in the nominative singular, arranged in alphabetical order and separated by commas.

Sample essay presented in Appendix B.

**Content** abstract position after starting on the next page.

The "Table of Contents" gives the following elements: "Reduction and contingencies poznaky", "Introduction," "Introduction", the names of all sections, subsections and points (if they are called) the content of the qualification of "findings", "The list of sources link "" Applications "from their name and page number indicating the beginning of a structural element.

**Abbreviations and conventional poznaky.** This structural element (if) contains a list of abbreviations conditional poznak, symbols, units and terminology.

## **2.2 The bulk of**

The body contains structural elements: introduction, content part, conclusions, list of sources of reference.

### **Introduction**

The introduction briefly taught:

- assessment of the current state of development of the object, revealing almost solved the task of leading scientific institutions and organizations, as well as leading scientists and experts of a particular field;
- Global Trends solution of problems and / or objectives;
- Relevance and justification of the reasons for its implementation;
- goals and tasks of work and possible areas of application;
- relationship with other works;

### **The content of the**

*The content of* - a presentation of information on the subject (object) development that are necessary and sufficient to disclose the nature of the work and its results.

If you need to give full proof (eg, math) or detailed information on the progress of development, they are placed in the annexes.

The content of teaching, dividing into sections. Chapters are divided into units or items and points. Paragraphs (if necessary) is divided into paragraphs. Each sub-option and should contain complete information. The text must use basic, derivatives or Common Units of physical quantities International System of Units (SI).

Example recommendations on the structure and nature of the content of the qualification of Bachelor of Engineering and oil drilling, which he studied in educational and professional program "Oil Engineering and Technology" (block "construction of oil and gas wells") below.

The structure of the explanatory notes are given in Table 1.

Present structure of work depending on the geological characteristics of the deposit and problems corrected and approved by the student leader.

### **Conclusions**

Conclusions placed directly after teaching sections of qualifying, starting with a new page.

The findings suggest an assessment of the results of relatively counterparts, covering achieved a degree of novelty, the practical significance of the results forecast assumptions on further development of the object of research or development.

Table 1 - Structure of the explanatory note of qualification Bachelor

Section title	Volume, p.
Introduction	2
1. Geological specifications drilling operations	5 ... 10
General information about the project work area.	
The geological characteristics of the area robot.	

Geological conditions of drilling.	
2. Technical and technological part	20 ... 25
Selection and study design well.	
Choose how drilling.	
Choice rock cutting tool.	
The choice of the drill string.	
Selecting face motor.	
Selecting the mode of drilling:	
- select the type of drilling fluid and their parameters;	
- preparation and cleaning of drilling fluid;	
- hydraulic calculation rinse well.	
Complications drilling	
The choice of drilling equipment.	
3. Occupational Health	5 ... 10
4 Environmental protection	3 ... 5
Conclusions	1
References	2
Applications	

## References

The list of sources, referred to in the body of work suggests the end of the text to applications on the next page.

The list of reference sources bibliographic descriptions served in the manner by which sources first mentioned in the text. Ordinal numbers bibliographic descriptions in the source list must comply with the reference in the text of the report (numerical reference).

Bibliographic descriptions of the links in the list lead according to current standards of library and publishing, including ISO 8302: 2015 "Information and documentation. The citation. The terms and rules of making. "

## 2.3 Applications

Annexes submit material that is required to complete an explanatory note and can not be consistently placed in the main due to a large amount or method of reproduction.

Applications are placed in order of reference in the text of the report.

Applications may include:

- supporting figures and tables;
- documents relating conducted studies or results (photographs, intermediate calculations, formulas, mathematical proof, a list of measuring instruments used during the execution of research, testing protocols, concluded metrological examination, a copy of a technical problem or a document replacing it; guidelines and techniques developed in the course of work, etc;
- description of computer programs developed in the performance of qualification;
- Description of new equipment and devices used;
- reviews and reviews.

The first application should be qualifying work sheet material qualifying work. Example of information given in Annex D.

The last qualifying work applications should review manager reviews the heads of sections.

Reviewed head qualifying work describes the structure:

- communication tasks for qualification to work with the object of degree;
- relevance of the topic;
- appropriateness of the standards of higher education and descriptors LDCs;
- practical significance of the results;
- the degree of independence of performance;
- Other issues (the use of computers, the reality, complexity, etc.);
- oformlyuvannya quality;
- list of shortcomings for which the reduced assessment;
- comprehensive assessment.

Each application must have a title that is printed in small letters at the top of the first major symmetrically to the text of the page. Above the title, but in the middle of the line, type the word "application" and the corresponding capital letter of the Ukrainian alphabet except the letters ∞ can, E, C, I, I, J, O, B, b, which designates the application.

If in addition to qualifying works cited document has independent significance (eg, patent research, technical specifications, production schedules, methods of research, standards, etc.) and is designed according to the requirements of this document, then the application containing a copy without any changes. For a copy of the document in the right upper corner put down pagination as expected when pagination app store and bottom pagination of the document.

## **2.4 Oformlyuvannya explanatory notes**

Is subject to ISO 3008: 2015. Reports in science and technology. The structure and rules oformlyuvannya.

General requirements for qualifying works text below.

It makes any text understood to be correct, clean, clear, accurate, logical, concise.

Some practical advice to the formation of texts explanatory notes:

- the text is divided into logically completed parts, each of which reveals a mikrotemu;
- must avoid tracing, surzhykovoyi language, stylistic errors;
- Communication between the individual sentences and paragraphs should use logical bridges, in the form of plug-in words and designs of this type, "was found", "away", "thus", "therefore", "first" and so on;
- do not use unusual morphological forms, lexical errors caused by incorrect use of the term;
- should take care of simple syntax and sentences should be transparent and uncomplicated to build on vocabulary;
- should give priority to these words with a high frequency of use;

- must comply with sentence length of 10-15 words;
- be sure to follow the construction of phrases (eg too far apart are the subject and predicate);
- should avoid eating too short sentences one by one;
- it is important to trace back to the first use of a term given its explanations were mentioned its etymology or the source of borrowing;
- new concepts must accompany the description;
- I have to explain unfamiliar words;
- You can not use the term in different senses;
- should not confuse terms of different scientific schools;
- unacceptable professional use slang, inaccurate or false interpretation of terms;
- foreign words and terms advisable to explain in the form of a footnote, that on the very same page, and special terms and concepts - in the text.

### **3 RECOMMENDATIONS TO demos**

The main requirement - display material qualifying work should reflect the original results obtained during its execution.

Demonstration of qualification material may also be electronic (video, multimedia, slides, etc.), model (models, models, product samples, etc.).

Some tips for applicants slide design:

- slide show content is original results obtained in the course of work;
- When the slide lot of information, it is not accepted in principle;
- slide should record the key points illustrate, and duplicate report;
- The rule on the slide to no more than thirty words;
- all that can be displayed using characters that reflect their help;
- refrain from demonstrations banal images;
- look nezayalozheni image;
- Do not overload the audience frequently changing slides - can not count on the attention;
- Qualification for the presentation of 10 slides enough;
- If the main slide gradually new information, it is not considered a separate slide;
- unacceptable to use more than 3 colors. It's not about aesthetics. It is about perception. Color - the same information;
- logos and other corporate identity elements in the bill do not go;
- font sans serif perceived easier. Font Times New Roman - Serif, a Frial - no;
- a slide must be removed all that clear;
- remove all that enough to hear and see optional;
- do not duplicate information that comes in two channels. Your voice will disturb the audience to read or image you will stop to listen.

### **4 EVALUATION qualification of the head**

Expert done by using criteria regulated by the Regulation on assessment of

learning outcomes of higher education applicants NTU "SE", which is presented below.

<i>The evaluation criteria of qualification Bachelor</i>	<b>Points</b>
<b><i>Knowledge</i></b>	
Results of qualifying - the correct, reasonable, intelligent. Characterize availability: - conceptual knowledge; - high degree of state ownership issues; - critical understanding of the main theories, principles, methods and concepts in education and careers	95-100
A nehrubi 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
<b><i>Ability</i></b>	
Qualifying work describes the ability to: - identify problems; - formulate hypotheses; - solve problems; - choose the appropriate methods and tools; - collect and interpret logical and understandable information; - use innovative approaches to solving the problem	95-100
Qualifying work describes the ability to apply knowledge in practical activities nehrubymy errors	90-94
Qualifying work describes the ability to apply knowledge in practice, but has some errors in the implementation of a requirement	85-89
Qualifying work describes the ability to apply knowledge in practice, but has some errors in the implementation of the two requirements	80-84
Qualifying work describes the ability to apply knowledge in practice, but has some errors in the implementation of the three requirements	74-79
Qualifying work describes the ability to apply knowledge in practice, but has some errors in the implementation of the four requirements	70-73
Qualifying work describes the ability to apply knowledge in practice while performing tasks on the model	65-69
Qualifying work characterizes apply knowledge while performing tasks on the model, but with uncertainties	60-64
poor level of skills	<60
<b><i>Communication</i></b>	
Clarity text qualifying work. Language: - correct; - clean; - gums; - accurate;	95-100

<i>The evaluation criteria of qualification Bachelor</i>	<b>Points</b>
<ul style="list-style-type: none"> <li>- memory;</li> <li>- laconic.</li> </ul> Communication strategy: <ul style="list-style-type: none"> <li>- coherent and consistent development of thought;</li> <li>- availability of own logical reasoning;</li> <li>- relevant arguments;</li> <li>- ability to draw conclusions and formulate proposals</li> </ul>	
Sufficient clarity with minor faults; Appropriate communication strategy with minor faults	90-94
Good clarity, appropriate communication strategy (not totally sold 2 requirements)	85-89
Good clarity, appropriate communication strategy (total not implemented requirements 3)	80-84
Good clarity, appropriate communication strategy (not totally sold 4 requirements)	74-79
Satisfactory clarity, appropriate communication strategy (total not implemented requirements 5)	70-73
Satisfactory clarity response (report) communication strategy of faults (total not implemented requirements 6)	65-69
Satisfactory clarity, communication strategy of faults (total not implemented requirements 7)	60-64
The level of poor communication	<60
<b><i>Autonomy and responsibility</i></b>	
Excellent ownership competencies: <ul style="list-style-type: none"> <li>- stresovytryvalist;</li> <li>- self-regulation;</li> <li>- labor activity in extreme situations;</li> <li>- level of personal attitude;</li> <li>- responsible for relationships;</li> <li>- possession of all kinds of learning activities;</li> <li>- degree possession of fundamental knowledge;</li> <li>- obscheuchebnyh appropriate level of development skills</li> </ul>	90-94
Confident possession competencies autonomy and responsibility with minor faults	85-89
Good knowledge competencies autonomy and responsibility (not implemented the requirement 1)	80-84
Good knowledge competencies autonomy and responsibility (not implemented requirements 2)	74-79
Good knowledge competencies autonomy and responsibility (not implemented requirements 3)	70-73
Satisfactory possession competencies autonomy and responsibility (not implemented 4 requirements)	65-69
Satisfactory possession competencies autonomy and responsibility (not implemented requirements 5)	60-64
Satisfactory possession competencies autonomy and responsibility (level fragmentary)	<60

Integral to the management is defined as the average of all descriptors.



## **5 PROTECTION WORK AND EVALUATION qualification examination commission**

### **5.1 Preparation of qualifying for defense**

Protection of qualifying work carried out at a public hearing examining board at universities and enterprises, institutions and organizations of different ownership forms, which are subject to qualification papers submitted to the protection of scientific, theoretical or practical value. Session Examination Commission issued even as the meeting carried out in an institution of higher education. Composition Examination Board (in attracting representatives of enterprises, etc.) that meets outside the university, and the dates of the meetings approved by the rector separately.

Hours of each examination committee prepares graduating department submitted to the dean, which consists of a general timetable for the examination boards.

The duration of protection meeting the qualification papers should not exceed six semester hours per day.

At a meeting of the examination committee defense allowed no more than 12 qualifying works.

To protect qualifying works accepted applicants who have fulfilled the requirements of the educational program a certain level of higher education.

Admission to the protection of the qualifying graduating department head makes the submission of the head.

According to the Ministry of Education and Science of Ukraine of December 21, 2017 number 1648 qualifying works must be published on the official website of the institution of higher education or subdivision or a repository. Disclosure of qualifying works containing classified information shall be carried out in accordance with current legislation.

Head of Department organizes inspection graduating qualifying works for the plagiarism in accordance with the procedure laid Instruction on the prevention and detection of plagiarism in NTU "Dnepr Polytechnic".

Qualifying work, which revealed fundamental flaws, to protect not allowed. The decision taken at the meeting of graduating department, an extract from the report is filed to the dean of the faculty to prepare a draft order of the rector of student contributions.

### **5.2 Preliminary qualification of protection**

Qualification is in the process of preliminary defense department a week before the official defense at the EC meeting. The student must submit to the Commission the department following:

1) Bachelor explanatory note to the work signed by the student, supervisor and consultants;

2) the key pieces of work (software implementation) and the results of solving all the tasks (presentation).

After hearing reports and student responses to questions cathedral Commission prior protection of undergraduate work determines the degree of readiness of

presented and decide on admission to the Bachelor of protection at a meeting of the examination committee.

### **5.3 Protection of qualification**

In defense of qualification papers to the examination commission serves

- qualifying student work;
- Head qualification review work;
- reviews heads of sections;
- certificate check result of borrowing according to p. 4.1.4 Regulations on the system of prevention and detection of plagiarism in NTU "Dnepr Polytechnic";
- kreslenyky, posters, slides and other visual materials support the protection of the qualification, which is part of the qualification (may be submitted in printed or electronic form).

By the examination committee may be submitted and other materials describing the general and special (professional) competence graduate, scientific and practical value made them qualifying work: articles, patent applications, patents, the implementing results, samples of materials, models, products, original mathematical models and programs and so on.

These materials must remain together with the text of qualification.

Protection qualifying works should take place in sequence:

1) Chairman of Examination Committee:

- before the meeting announced schedule, the order of the EC, the rules of presentation of qualification, evaluation criteria;

-open meetings and represents the present committee members, referring to the relevant order;

-protection before each qualifying work publishes data on student performance and curriculum gives him the floor to present the results of the qualification;

2) applicant refers theme qualifying work formulates the contradiction practice (problem) that is the basis for choosing the topic, argues its relevance determines the subject development or research formulates setting objectives and results of their performance reasons they comply with the requirements of novelty, accuracy and practical value .

Applicant during the defense may use different forms of visualization reports: graphic material qualification of defined objectives for its implementation, slides, audio, video, etc;

3) after the applicant Examination Commission report asks him questions;

4) The applicant answers questions Examining Board;

5) Head announces qualification of the main provisions of feedback and evaluation of reasons;

6) applicant responds to the comments of the head;

7) chairman announces end protection;

8) chairman protection after qualifying works launches closed the meeting at which the decision to protect assessment of the results of qualifying works and issuance of certificates to graduates (diploma with honors) on graduation, getting a

degree and qualifications. Managers of qualifying works may be present at the closed session.

The decision taken by open vote by simple majority members of the examination committee who participated in the meeting. With the same number of votes the chairman of examination board has the casting vote. Examination Commission decision is final and not appealable.

9) Chairman of Examination Committee invites students for continued public meeting and announce the results of the decision.

#### **5.4 Evaluation criteria of qualification examination commission**

Evaluation of protection qualification examination commission carried out on scales:

The scales of assessment of learning outcomes of students NTU "SE"

Ranking	Capacity
90 ... 100	fine / Excellent
74 ... 89	good / Good
60 ... 73	satisfactory / Satisfactory
0 ... 59	Unsatisfactory / Fail

Evaluation criteria Qualifications of protection:

- evaluation of the head;
- normokontrolera evaluation;
- the level of accuracy of the results;
- the level of practical value results;
- knowledge;
- level skills;
- the level of communication;
- level of autonomy and responsibility.

In evaluating the quality of its performance is taken into account and oformlyuvannya, novelty and significance of the results, performance degree and completeness of its replies to questions.

Re-qualification of protection to improve assessment is not allowed.

A competitor who work in defense of the qualification received unsatisfactory evaluation, measured from the university and academic transcript issued him a standard form.

A competitor who defended qualifying work is allowed to re-protect it for three years after graduation. In this case, the examination committee determines whether a student is present to protect the same qualification completion of work that defines the committee, or should develop a new theme that set the appropriate department.

Applicants who successfully defended qualifying work examining board decision diploma form for graduation and received qualification.

Honors seems bachelor who received final grades "excellent" at least 75% of all the disciplines of the educational program, individual assignments, course projects (works) practices, the curriculum, and on the other - "good" not more than 25 %

defended qualifying work with "excellent", showing a scientific (creative) work, which is confirmed by the recommendation of the department.

## **6 CERTIFICATION AUTHORITY MEMBERS**

### **6.1 Student**

A student doing work qualification shall:

- choose and agree with the head of the subject;
- get job qualification work;
- independently perform qualifying work using materials pre-practice methodology and information security;
- regularly attending counseling supervisor and heads of sections;
- accept comments and quickly perform guidelines heads;
- weekly inform the supervisor on the implementation of tasks for qualifying work;
- submit a qualifying job to check the heads of sections, get an estimate for the execution of each chapter;
- submit material ready for inspection supervisor;
- submit qualification work, signed by the CEO and its electronic copy of the responsible person of the department (normokontroleru) to check the level of debt and obtain appropriate certificate of inspection results;
- prepare a report on the main provisions of qualifying;
- provide a response to the supervisor, heads of sections;
- schedule work to protect Examining Board meeting following the regulations;
- get the document on higher education.

### **6.2 Director of Qualifications**

The manager must:

- issue a current topic of qualification;
- give job to job qualification indicating the timing of chapters and submitting work to the examining board;
- manage the implementation of qualification;
- make a schedule for consultations;
- adhere to schedule consultations;
- monitor the quality of work;
- resolve disputes arising between graduates and heads of sections;
- to inform the department meeting on the implementation schedule tasks;
- with substantial deviation from the schedule raise the issue of suspension of qualification work;
- check the qualification work and assess its defining quality of the qualification work for evaluation criteria that correlate with descriptors of NQF on levels of higher education listed in the Regulation on the assessment of learning outcomes seekers of

higher education "to sign the cover sheet explanatory notes and materials graphic part;

- write a reasoned response to the qualification work;
- return the student to work in defense;
- to prepare students for the Protection of qualification;
- be present at the time of protection and declare your review at a meeting of the examination committee.

### **6.3 Leader separate section**

Head section includes:

- manage the implementation of this paragraph;
- make a schedule for consultations;
- stick to schedule consultations;
- inform the supervisor on the status of the section;
- recommend methods for solving problems;
- stamped assessment of quality performance section on the front page.

### **6.4 Normokontroler**

Normokontroleru should:

- assess the degree of use in qualifying the work requirements of applicable standards and other regulations, the availability and proper oformlyuvannya links to them;
- estimate (according to the Regulations on the system of prevention and detection of plagiarism at the National Technical University "Polytechnic Dnepr") rate loans in the text of the explanatory note the qualification of applicants and provide a printed certificate of test results. Where the level of borrowing exceeds permissible to return a qualifying job applicants and found to prove the fact of academic plagiarism to the attention of the head;
- stamped for compliance assessment of the current oformlyuvannya qualification requirements and sign the cover sheet explanatory note.

### **6.5 Head graduating department**

Head graduating department include:

- approve the qualifications of job applicants;
- provide methodological and information base certification candidates;
- create the necessary conditions to perform qualification works in the premises of the department, university;
- monitor the implementation schedule of consultations lecturer;
- considered at a meeting of the state of implementation of qualification works, which carry guide lecturer;
- consider and make decisions on contentious issues between the supervisor and applicants;
- control objective assessment of qualification works;

- qualifying the audit work for the plagiarism and publishing them on the official website of the university or department, or in the repository;
- decide on the admission of qualification works to protect.

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## APPENDIX A

### Example of formlyuvannya cover sheet

The Ministry of Education and Science of Ukraine  
National Technical University  
"Dnepr Polytechnic"  
Geological Survey  
(faculty)  
Department of Petroleum Engineering and Drilling  
(full name)

### EXPLANATORY NOTE

Qualification of degree bachelor  
(Bachelor's degree)

students Vladislav Trifonov A.  
(PIB)

academic group 185-17-1 HRF  
(code)

specialty 185 Oil Engineering and Technology  
(Code name and specialty)

specialization \_\_\_\_\_

in educational and professional program "Oil and gas engineering and technology"  
(Official name)

on the topic Development of technology for drilling wells for the conditions of section Semyrenkivskoho gas condensate field  
(The name for the order of rector)

Leaders	Name and surname	Score scale		Signature
		rating	institutional	
qualifying work	AK Sudakov			
sections:				
Technological	AK Sudakov			
Occupational Health	A. Bezshasnyy			
Reviewer				
Normokontroler	Rastsvyetaev VA			

Dnipro  
2019

APPENDIX B  
**Example of formlyuvannya task**

**APPROVED:**  
Head of Department  
engineering and oil drilling  
(full name)  
EA Korovyaka  
(Signature) (name, initials)

" \_\_\_\_ " \_\_\_\_\_ 2019

**TASK**  
**Qualification work**  
**degree** bachelor  
(Bachelor's degree)

**students** Trifonov Vladislav Alexandrovich **academic group** 185-19-1 HRF  
(Surname and initials) (code)

**specialty** 185 Oil Engineering and Technology \_\_\_\_\_

**specialization** \_\_\_\_\_

**in educational and professional program** "Oil and gas engineering and technology"

—  
**on the topic** Development of technology for drilling wells for the conditions of section Semyrenkivskoho gas condensate field \_\_\_\_\_

approved rector of NTU "Dnipro Polytechnic" Of 04.10.2019r. №256-1

Section	Content	Term implementation
Technological	Characteristic oil and gas company. Design of the constructions of wells, the choice of method of drilling and drilling equipment and tools.	01/11/2019
Occupational Health	Analysis of potential dangers projected object and features its negative impact on the environment,	01/12/2019

**The challenge issued** \_\_\_\_\_ AK Sudakov  
(Signature Head) (name, initials)

**Date of issue** 15.10.2019r.

**Date of submission to the Examination Commission** 20.12.2019r.

**Acted upon** \_\_\_\_\_ Trifonov VA  
(Student signature) (surname, initials)

APPENDIX C  
**Example of formlyuvannya essay**

**ABSTRACT**

Explanatory note: 72 sec., 2 fig., 22 tab., 2 applications, 30 sources.

Wells, drilling rigs, rock cutting tools, drilling technology, cementing, drilling fluid, master.

Scope of application development - drilling.

The object of development - the technology of drilling wells for the conditions of section Kehichyvsokoho condensate field with the improvement of emulsion formulations mud.

Purpose - improving the mechanical speed drilling of wells in the conditions Kehichyvsokoho gas condensate field, which is achieved by improving the formulation of emulsion mud.

The novelty of the results - requirements for improved emulsion solutions for washing wells in complex geological conditions of drilling. Done gradual and consistent study the effect of composition and properties of the dispersion medium, the type and concentration of emulsifier, composition and extent of mineralization of the aqueous phase, the type and concentration of stabilizing reagents strukturotvornyh and performance properties of the emulsion solutions.

Studied their effects on structural-mechanical, rheological properties and filtration solutions.

Based on regression analysis specified concentrations of mud.

Practical results - the technology of drilling wells for the conditions of section Kehichyvsokoho gas condensate field, the analysis of the geological structure and characteristics of the productive horizons; design reasonably well; study conducted drilling equipment; grounded rock cutting tool technology attachment hole. Designed issues of mineral resources and the environment. Grounded construction budget hole. Improved recipe emulsion mud.

The practical significance of qualifying work - improving the mechanical drilling speed, which is achieved by reducing the coefficient of friction tool at the borehole wall and improve the rheological properties of drilling mud at high temperature wells.

**APPENDIX D**  
**Statement of Qualifications materials**

<b>n u m b e r</b>	<b>Format</b>	<b>Marking</b>	<b>Name</b>	<b>The number of sheets</b>	<b>Note</b>
1					
2			Documentation		
3					
4	A4	NHIB.OPP.19.11.Soft ware	explanatory note	72	
5					
6			demos		
7					
8			The geological map of the area (field)	1	
9			Geological section area (field)	1	
10			Geo-technical project	1	
12			Proposals for improving drilling technology	1	

## APPENDIX E

### withdrawal

#### Qualification Bachelor work on the topic:

" \_\_\_\_\_ "

(Title theme)

#### student group

\_\_\_\_\_

(Code) (name, surname)

1. Set the goal of qualifying for the educational and professional program (EPP).
2. Specify the topicality of qualification.
3. Specify connection threads qualifying work with the object of degree.
4. Compliance problems qualifying work OPP.
5. Practical significance and originality of technical solutions.
6. Use of software application packages (Reality, complexity, etc.).
7. Compliance execution of qualification standards.
8. Assessment of individual preparation of qualification.
9. Overall qualification of work.
10. Having shortcomings.

#### Director of Qualifications,

\_\_\_\_\_

(Position, department name) (signature) (name, initials)

Educational edition

Korovyaka Evgeny Anatolievich  
Andrew K. Sudakov  
Vladimir Khomenko L.

Program guidelines and  
to fulfill the qualification of Bachelor  
185 specialty "Oil and gas engineering and technology"

In the wording of the author

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