



## PRACTICE

### Work program of the discipline (Syllabus)

#### Details of the discipline

Level of higher education	<i>Second (Master's)</i>
Field of knowledge	<i>Production &amp; Technology</i>
Speciality	<i>184 Mining</i>
Educational program	<i>Geoengineering</i>
Discipline status	<i>Normative</i>
Form of study	<i>full-time (full-time)</i>
Year of preparation, semester	<i>Second year, fall semester</i>
Scope of discipline	<i>14 credits/ 420 hours</i>
Semester control / control measures	<i>Score / report</i>
Timetable	
Language of instruction	<i>English</i>
Information about Course Leader / Instructors	<i>Lecturer: Doctor of Technical Sciences, Prof. Oleksandr Frolov, frolov.oleksandr@iill.kpi.ua</i>
Course Placement	<a href="https://classroom.google.com/u/1/c/Nzl4Njl3NzlwMDg0">https://classroom.google.com/u/1/c/Nzl4Njl3NzlwMDg0</a>

#### The program of the discipline

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

Practice is the final link of students' training. It allows to deepen and consolidate theoretical knowledge in all disciplines of the educational process and select the necessary material for the implementation of master's thesis.

The purpose of practice is the application, generalization and consolidation of knowledge obtained at the university in practical activity, mastering of practical experience and skills of independent labor and research activity.

Mastering the educational component "Practice" according to the OPP allows students to form general and special competencies, as well as program learning outcomes:

3K 1. Ability to act in a new situation related to work in the specialty and the ability to generate new ideas in the field of mining.

3K 2. Ability to communicate with specialists and experts of different levels of other branches of knowledge.

3K 3. Ability to work in an international context and in the global information environment in the specialty.

3K 4. Ability to act in a socially responsible and conscious manner.

ΦK 1. Ability to identify, set, solve problems and make informed decisions in professional activity

ФК 2. Ability to carry out theoretical and experimental studies of parameters and modes of functioning of systems and technologies of mining and geostructural enterprises;

ФК 6. Ability to carry out design works of special construction methods, objects of mineral development, to take special measures for the reconstruction of underground structures and mining enterprises

ИПХО 1. Act in a new situation related to the work on specialty and ability to generate new ideas in the field of mining;

ИПХО 6. Identify, pose, solve problems and make informed decisions in professional activities;

ИПХО 9. Develop project documentation (terms of reference, technical proposals, preliminary design, technical design, detailed design) for mining and geostructural systems.

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

Prerequisites: Pre-diploma practice is in the last part (in the third semester) of the structural-logical scheme of the educational-professional training program of Master's degree in specialty 184 "Mining Engineering" on the educational program "Geoengineering". It is preceded by all normative disciplines of this educational program.

Post-requisites: Upon completion of the pre-diploma practice, knowledge, skills and abilities obtained by the results of training are necessary for successful writing of the master's thesis.

## **3. The content of the discipline**

The curriculum provides for independent work of students during the internship. Pre-diploma internship consists of general and individual parts.

In the general part of the student gets acquainted with general information about the institution in which the student undergoes practice, the structure of the organization (enterprise), the direction and scope of search, design and development work. The main tasks that face the institution and individual departments, their relationship with enterprises, prospects for future activities. Study of the duties of a geologist, hydrogeologist, mining engineer, designer, etc. Occupational health and safety at the workplace. Prevention of industrial injuries and occupational diseases. Means of individual protection. Fire prevention measures.

Individual part provides activities on the proposed topic of the master's thesis. Namely, justification of the choice of topic, relevance, novelty, prospects of use and implementation of the results of project work. General familiarization with the problem. Selection and compilation of bibliographic lists of domestic and foreign technical, scientific and regulatory literature (textbooks, articles, regulatory documentation, monographs, etc.). Writing a report on the topic. Analysis, comparison, critical thinking of the processed information. Summarizing the information and highlighting the state of the issue, formulating the goal and objectives of the planned master's thesis.

#### 4. Training materials and resources

##### *Basic literature*

1. Regulation on the procedure for conducting the practice of applicants of higher education Igor Sikorsky KPI / Regulation on the procedure for conducting the practice of higher education Igor Sikorsky KPI <https://osvita.kpi.ua/node/184>.

2. Regulation on the procedure for conducting the practice of students of higher educational institutions of Ukraine <https://osvita.kpi.ua/node/11>.

3. Preparation of qualification works on the second (master's) level of higher education [Electronic resource]: textbook for students of specialty 184 “Mining Engineering”, / Igor Sikorsky KPI; compiled by: S.M. Stovpnik, A.L. Gan, Shaydetskaya L.V., O.V. Gan - Electronic text data (1 file: 0.64 MB) - Kyiv: KPI named after Igor Sikorsky, 2019 - 31 p.

[https://ela.kpi.ua/bitstream/123456789/29104/5/Pidhotovka\\_kvalifikatsiinykh\\_robot\\_za\\_II\\_RVO.pdf](https://ela.kpi.ua/bitstream/123456789/29104/5/Pidhotovka_kvalifikatsiinykh_robot_za_II_RVO.pdf)

##### *Additional literature*

The student provides his/her own list of literature, which is used in the diploma design.

##### *Information resources*

1. Library NTUU “KPI”, <http://kpi.ua/library>

2. National Library of Ukraine named after V.I. Vernadsky, [www.nbuv.gov.ua/](http://www.nbuv.gov.ua/)

3. National Parliamentary Library of Ukraine, <http://www.nplu.org/>

4. State Scientific and Technical Library of Ukraine, [www.gntb.gov.ua](http://www.gntb.gov.ua).

#### Educational content

#### 5. Methods of mastering the academic discipline (educational component)

##### *Order of organization and management of practice*

Practice for second-year students of the specialty 184 “Mining Engineering” is carried out according to the curriculum of full-time and part-time forms of education. During the internship and the implementation of the main tasks of the internship program, each student must obtain specific results on the topic, which will be reflected in the formulation of the topic of the master's thesis. The program of practice of students consists of the following parts:

formation of an individual schedule of practice and familiarization of the student with domestic and foreign studies in order for the student to form a bibliographic list of literature on the selected topic of the master's thesis. During this period students are obliged to realize the review of normative documentation and scientific literature, to collect and process practical and informational material, to realize the selection and processing of statistical data on the chosen topic;

preparation of abstracts for presentation at the scientific and technical conference on the chosen direction;

fulfillment of individual assignment, completion of work on the formation of the topic of the master's thesis, execution of the report on practice and its defense. Educational and methodological guidance and implementation of practice programs are provided by the heads of the enterprise. The general organization of practice and control over its implementation at the department is responsible for the practice at the department, which is appointed by the head of the department.

To directly supervise the practice of each student graduating department appoints a supervisor from among the teachers, which, as a rule, combines these duties with the duties of the head of the master's thesis.

*Procedure for sending students for practical training*

Students are sent to practice according to the order of the university. The order determines the type of practice, the terms and place of its completion, the distribution and assignment of students to practice supervisors from departments, etc. The form of the order and the terms of its preparation are determined by the current requirements of the university. Starting the internship, the student must receive in advance a briefing on practice and safety at the department. The briefing of students is carried out during the installation meeting. The introductory meeting provides familiarization of students with the requirements for the internship and the necessary documents. During the first meeting (1-2 days before the start date of the internship) students are provided with samples of documents for registration (such list of documents may include: letter of direction to the internship, schedule of the internship, training program and methodological guidelines for the internship, etc.). In case the student chooses the object of practical training independently, the specified procedure of referral for practical training should be clearly observed.

*Responsibilities of the person responsible for the internship from the department:*

The person responsible for the practice in the department is appointed by the head of the relevant department. The main duties of the departmental internship supervisor are:

- organizing and holding an introductory meeting for the students of the department (including instruction on occupational health and safety) and providing them with the necessary documents before the start of practice;
- ensuring the timeliness of the formation of students' individual schedules of practice and receiving individual assignments from their direct supervisors;
- timely holding of the introductory meeting on internship, familiarizing students with the requirements for documentation on internship, reporting system and evaluation criteria for internship, which are regulated by the relevant normative and methodological documentation on the organization and conduct of internship;
- advising students on the terms and procedure of practical training, execution of documents on practical training and defense of the report;
- ensuring the timely submission by students to the department of practice reports and other documents necessary for defense, their checking and signing;
- timely organization and defense of the internship;
- reporting at the department meeting on the results of the internship.

*Responsibilities of internship supervisors from enterprises*

To directly supervise the practice of each student, the head of the enterprise - the base of practice appoints a (direct) practice supervisor. The duties of the heads of practice from the enterprise are:

- control of observance of labor discipline and safety standards by students;
- development and provision of individual tasks and other instructions to students for the practice, taking into account the specifics of the specialty;
- control over the timeliness of formation and fulfillment of individual schedules of students' practical training;
- advising students on the fulfillment of individual assignments of the internship and execution of documents on the internship;
- creation of conditions for quality implementation of the internship program and assistance to students in obtaining materials for the report and professional development;

- timely execution of feedback (assessing the attitude to work, compliance with labor discipline, level of theoretical and practical training, etc.) and preliminary assessment of the student's work in practice on the basis of verification of the report on practice, the results of individual assignment and other documents on practice.

#### *Duties of students-practitioners*

Students of the department during the internship are obliged:

- Before the beginning of the internship at the introductory meeting, and then individually, to receive advice from the head of the internship on the execution of all necessary documents;
- to arrive at the base of practice in time (no later than the date specified in the direction);
- systematically work on the implementation of tasks according to the program of practice;
- fully perform all tasks provided by the internship program, specified in the individual schedule of internship and instructions of the direct supervisor;
- strictly observe the working day regime, internal regulations, labor protection and safety rules, operating at the internship base;
- be responsible for the work performed;
- to keep in constant contact with the department and to appear at the intermediate control in the term appointed by the head of practice from the department;
- to highlight the results of the completed work and formalize them in the report on the internship in accordance with the established and current requirements of the department to the structure and design of the report;
- timely submit to the department reporting documents and in due time to protect the materials of practice, before the appropriate commission.

## **Policy & Control**

### **6. Academic discipline policy (educational component)**

Both the teacher and the student are required to comply with the Honor Code of the National Technical University of Ukraine "Kyiv Polytechnic Institute"

Main provisions of the policy:

- attending consultations appointed by the internship supervisor from the department;
- student completion of the assignment plan in accordance with the individual assignment;
- during the internship, students have the opportunity to raise any issue regarding the procedure for conducting and evaluating control activities;
- students have the right to appeal the results of control activities, reasonably explaining which criterion they disagree with in accordance with the evaluation letter and/or comments;
- in the event of detection of a fact of academic distress, the internship report is not counted.

### **7. Types of control and rating system for assessing learning outcomes (CRO)**

Forms and methods of control, summing up the results of the practice.

The main tasks of the practice are reflected in the Practice Diary, which is kept in the form approved by the Igor Sikorsky Kyiv Polytechnic Institute.

The student makes notes in the Diary throughout the practice. Records the content and volume of the work done, as well as its results. The actual performance is recorded by the practice supervisor from the enterprise.

The result of the practice should be the receipt of results that will be used in the student's further developments, on the basis of which the topic of the master's dissertation will be clarified, and will be the basis for writing it. The results are presented in the form of a Report on pre-graduation practice.

Upon completion of the practice, the enterprise manager prepares a review of the implementation of the practice program.

A written report together with the practice diary is submitted for review to the immediate practice supervisor from the department within the time frame determined by the relevant department and regulated by regulatory and methodological documents on the organization and conduct of the practice.

The report sent to the department in the established manner is checked at the department by the practice supervisor from the department. If, based on the results of the check, the report meets the established requirements, it is recommended for defense before the commission.

In case of detection of uncompleted work, non-compliance with the requirements of the faculty, the report is sent for revision.

Based on the results of the check of the report, the immediate supervisor of the practice from the department writes a general review and determines the grade according to which the report is recommended for defense before the commission. The assessment of the supervisor of the practice is only advisory in nature and is not a mandatory assessment of the defense by the commission.

The main document certifying the student's completion of the practice program is a written report. The content of the report should disclose the knowledge and skills of the student acquired by him in solving the issues determined by the goal and objectives of the practice. The criteria for assessing practice are presented in Table 1.

*Table 1 – Practice assessment criteria*

Type of work student activity	Maximum points	Evaluation criteria on a point scale
Implementation of the practice program	15	5- the student started the internship on time and attended the orientation meeting; 10 – the student regularly and promptly reported to the internship supervisor on the completion of assigned tasks;
Preparation of reporting materials	15	5 – the student has completed and submitted the internship diary in a timely manner; 5 – the student has submitted the internship report in a timely manner; 5 – the internship report contains material that corresponds to the tasks of all stages of the internship calendar schedule

Type of work student activity	Maximum points	Evaluation criteria on a point scale
Recommended assessment of the supervisor of the master's thesis	25	10 – quality of completing individual assignments for practice; 15 – compliance of materials obtained during practice with the topic of future research for the master's thesis
Protection of practice	45	10 – definition of the goals of the internship and individual assignment; 5 – information on the types of activities and structure of the institution where the internship took place; 10 – results of the individual assignment; 20 – the possibility of using the obtained results of the individual assignment in the master's thesis

The student is allowed to defend the internship upon completion of all assignments.

The results of the internship are summed up in the form of a differentiated test, which is accepted by the commission. The composition of the commission is determined by the head of the department (at least 2 members of the commission).

Table of correspondence of rating points to grades on the university scale:

Number of points	Grade
100-95	Perfectly
94-85	Very good
84-75	Well
74-65	Satisfactory
64-60	Enough
Less than 60	Disappointing
Failure to comply with the conditions of admission to the exam	Not allowed

### **Work program of the discipline (syllabus):**

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**Approved** by the Department of Geoengineering (No. 19 of June 19, 2024 )

**Approved** by the Methodological Commission of the Institute (No. 21 of June 25, 2024).