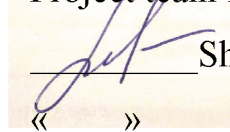


Ministry of Education and Science of Ukraine  
National Aerospace University  
“Kharkiv Aviation Institute”

Department № 403  
“Composite Structures and Aviation Materials”  
(department title)

**APPROVED BY**

Project team leader / Head of SMC

 Shevtsova M.A.  
«    »      2020

**GRADUATING PROGRAM OF EDUCATIONAL DISCIPLINE**

PRACTICAL TRAINING  
(title of the discipline)

**Branch of knowledge:** 13 "Mechanical Engineering"

(code and title of brunch of knowledge)

**Specialty:** 134 "Aerospace Engineering"

(code and title of specialty)

**Educational program:** Design and Manufacturing of Composite Constructions

(title of educational program)

**Level of higher education:** first (Bachelor)

**Kharkiv – 2020**

Graduating program Practical training

For students of specialty: 134 "Aerospace Engineering".

Educational program: Design and Manufacturing of Composite Constructions

«\_\_» \_\_\_\_\_ 2020, – 6 pages.

Program was developed by associate professor of 403 dept., associate professor  
(surname and initials, position held, scientific rank, academic rank)



(signature)

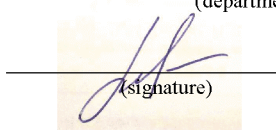
S.M. Purhina

(initial and surname)

Program was approved by department of Composite Structures and Aviation Materials

Protocol № 1 from «31» 08. 2020.

Head of department of Composite Structures and Aviation Materials, Ph.D, associate professor  
(department title, head of department scientific rank and academic rank)



(signature)

M.A. Shevtsova

(initial and surname)

## 1. INTRODUCTION

1.1 General provisions: According to the curriculum of the specialty 152 Metrology and information-measuring equipment, second-year students are required to undergo introductory practice, getting acquainted with the work of departments of advanced enterprises related to metrological problems, as well as the manufacture of measuring equipment and aircraft.

1.2 Duration of the internship and its validity period: 90 hours (3 credits) are allocated for the introductory internship. It is held within 2 weeks after the end of the 4th semester.

1.3 Possible bases of practice: Bases of introductory practice can be:

- enterprises of instrument-making and metrological branches;
- departments of the chief metrologist of the enterprises of various branches of industry;
- divisions that provide design, development, production, testing and operation of measuring equipment and control and diagnostic equipment.

Note: Internships at enterprises are conducted in accordance with their internal labor regulations.

## 2. PURPOSE AND TASKS OF INTRODUCTORY PRACTICE

*The purpose* of the practice is for students to acquire practical skills in the types of work that most fully correspond to the specialty, as well as to consolidate and deepen the theoretical knowledge acquired by students in the study of the disciplines taught.

*Tasks:*

- study of the structure and organization of the enterprise, where the introductory practice takes place;
- study of economics, labor organization, planning and management of production;
- acquaintance with the basic technical and economic indicators of work of the enterprise and divisions, and also with methods of calculation of the prime cost of let out production and ways of its decrease;
- acquaintance with the main stages of development and development of production of measuring equipment and non-standardized equipment;
- study of labor and environmental protection, organization of measurements and control of its condition.

## 3. CONTENT OF PRACTICE

Introductory practice involves:

- conducting study tours in the structural units of the enterprise where the practice takes place;

- getting an idea of the organization and structure of the enterprise, the work of an engineer in his specialty at different production levels, the prospects
- development of control and measuring devices, aviation equipment and onboard information and measuring systems
- study of basic production terminology, characteristics of production facilities and measuring instruments, basics of safety and labor protection, the main stages of development and development of production of aircraft instruments and measuring instruments;
- development of control and measuring devices, aviation equipment and onboard information and measuring systems
- study of basic production terminology, characteristics of production facilities and measuring instruments, basics of safety and labor protection, the main stages of development and development of production of aircraft instruments and measuring instruments;

#### **4. INTRODUCTORY PRACTICE GUIDE**

4.1 General management of introductory practice is carried out by the head of practice from the department.

4.2 Teachers of the department (group leaders) can be appointed to lead certain groups of students who have an internship at a specific enterprise.

4.3 The head of practice from the department is obliged to:

- identify companies for training practice and, if necessary, enter into agreements with them;
- together with group leaders to distribute students-interns on bases of practice;
- together with group leaders to hold instructive meetings of students before the internship and reporting meetings after the internship;
- report on the results of the internship.

4.4 Group practice leaders are obliged to:

- maintain constant contact with practice managers from enterprises;
- to hold, if necessary, group meetings of students at the university or at the place of practice;
- together with managers from enterprises to eliminate identified shortcomings in the organization or conduct of practice;
- approve practice diaries and student reports;
- after the internship to write a review and evaluate the student's work during the internship, as well as to put grades in the test sheet.

4.5 Practice managers from the company are obliged to:

- make a note in the student's business trip about his arrival at the company;
- conduct safety briefings;
- to acquaint the student with a workplace and rules of operation of the equipment;

- to clarify the plan of practice;
- at least once a week to check the student's practice diary, if necessary to make written comments and, if necessary, to give additional tasks, to sign weekly entries made by the student in the practice diary.

## **5. RESPONSIBILITIES OF THE STUDENT-PRACTITIONER**

5.1 Before leaving for practice the student should:

- to be instructed by the head of practice from the department;
- get a completed internship diary with a business trip certificate and a copy of the calendar schedule of the internship.

5.2 Arriving at the company, the student must:

- provide the head of the company with a practice diary;
- be instructed in safety;
- to get acquainted with a workplace and rules of operation of the equipment;
- to specify the plan of passing of practice with the head from the enterprise.

5.3 During the internship the student is obliged to:

- follow the rules of the work schedule of the enterprise where the practice is conducted;
- follow the instructions of the head of practice from the company, as well as the instructions of the head of practice from the department and group leader;
- daily briefly write in the practice diary everything done during the day;
- at least once a week to provide the practice diary for review to the head of practice from the company.

5.4 At the end of the internship the student must submit to the head of the internship from the department:

- practice diary designed in accordance with all requirements;
- report signed by the group leader;
- photocopies of materials from practice databases (if necessary).

## **6. SUMMARY OF PRACTICE**

After the introductory internship, students defend their reports to the group supervisors. The report together with the completed practice diary is submitted to the head of the practice from the department, who reports on the results of the practice.

Based on the results of the practice, students are given a differentiated grade, which is taken into account together with other grades that characterize the student's success. The results of tests in practice are entered in the examination sheet and put in the record book. Студент, який не виконав програму практики і отримав незадовільну оцінку на заліку, направляється на практику повторно під час канікул або відраховується з університету.

## 7. CRITERIA FOR EVALUATION OF STUDENTS 'WORK DURING PRACTICE

The grade for the internship is set taking into account the student's work at all stages.

| Type of work   | Scores     |
|--|------------|
| Individual task  | 60         |
| Report on the results of the professional-introductory stage of practice | 30         |
| Report on the student's work at a specific workplace                     | 10         |
| The sum of points  | <b>100</b> |

### Estimation scale: national and ECTS

| Total score by all studying activities | ECTS scale | Mark by national scale                       |                                   |
|--|------------|--|-----------------------------------|
|  |            | for exam, course project (paper), internship | for credit                        |
| 90 - 100                               | A          | excellent                                    | passed                            |
| 82 - 89                                | B          | good   |                                   |
| 74 – 81                                | C          |  |                                   |
| 64 -73                                 | D          | satisfactory                                 |                                   |
| 60 – 63                                | E          |  |                                   |
| 0 – 59                                 | FX         | not passed (repassing is allowed)            | not passed (repassing is allowed) |