INTERNSHIP PROGRAM FOR THE FACULTY OF

INFORMATICS

first-level studies with a practical profile

(valid from January 10, 2022)

1. Objectives of internships

The overriding goal of the internship is to familiarize the student with the nature of the profession of an IT engineer performed in organizations employing graduates of first-level studies in the field of computer science.

The main goals of professional practice in the field of computer science are:

1. Educating students in the place of the practical application of the knowledge they acquire.

2. Allowing students to verify the previously acquired knowledge in the field of theory and methods used in engineering and technical sciences in the leading discipline of technical IT and telecommunications, and to acquire practical skills to use this knowledge in future professional work.

3. Enabling the disclosure or acquisition of appropriate social competencies necessary to perform the profession of an IT specialist.

2. Learning outcomes assumed to be achieved by students during internships

Code	In the range of knowledge, the student:	Reference to learning outcomes (codes)
W_1	Has basic practical knowledge of the organization and use of IT systems in the economy and administration, for example, the creation of data collection and search systems, the techniques of creating distributed applications, including Internet ones, and the IT methods and tools used for this purpose.	Inf_WG06 Inf_WG10 Inf_WK01
W_2	Knows and understands the organization and course of implementation and/or maintenance of IT systems in practice.	Inf_WG07 Inf_WK06
W_3	Knows in practice the risks associated with data security, storage, and transmission, as well as practical methods of securing data against unauthorized access.	Inf_WG12 Inf_WK01 Inf_WK02
W_4	Knows and understands popular tools used in the practice of various types of organizational units to solve typical IT problems.	Inf_WG08 Inf_WK06
W_5	Knows and understands the principles of creating and using Internet applications in various types of organizations, with particular emphasis on applications based on the MVC pattern and REST architecture.	Inf_WK06 Inf_WK03
W_6	Knows the principles of running IT projects with particular emphasis on the highest possible level of user experience, adapted to a specific organization.	Inf_WG07 Inf_WG07 Inf_WK06
W_7		Inf_WG09

	Knows and understands the practical application of artificial intelligence methods to solve problems in a given organization.	Inf_WK04
W_8	He knows mobile solutions used in the functioning of organizations of various sizes.	Inf_WG19 Inf_WK06
Code	In the range of skills, the student:	Reference to learning outcomes (codes)
U_1	To improve the functioning of a given organization, the student is able to select various information technologies learned in the course of studies in professional practice.	Inf_UK02 Inf_UO02 Inf_UU02 Inf_UW07
U_2	Is able to practically implement Internet applications, including those supported on mobile devices, which can be integrated with the existing IT systems of the organization.	Inf_UK03 Inf_UO03 Inf_UW29 Inf_UW30
U_3	Is able to manage an IT project, taking into account the positions and opinions of various stakeholders of a given organization.	Inf_UK02 Inf_UK03 Inf_UO02 Inf_UW11
U_4	Is able to practically adapt the user experience in the project to the needs of employees or members of a given organization.	Inf_UK02 Inf_UO02 Inf_UW20
U_5	Has practical skills in implementing artificial intelligence solutions to optimize and automate processes in the organization.	Inf_UK03 Inf_UO03 Inf_UW35 Inf_UW36
U_6	Is able to design comprehensive mobile solutions in practice, adapted to the devices available within a given organization.	Inf_UK02 Inf_UO03 Inf_UW24 Inf_UW25
U_7	Is able to solve typical problems related to the functioning of a computer network in an organization.	Inf_UK03 Inf_UO03 Inf_UW06 Inf_UW08
U_8	Is able to implement a selected database management system adapted to the specifics of the organization's functioning.	Inf_UK02 Inf_UO03 Inf_UW05 Inf_UW07
U_9	Is able to practically design elements of visual identification for the needs of the organization, consistent with its vision and strategy.	Inf_UK02 Inf_UK03 Inf_UW09
U_10	Is able to recognize in practice the most popular problems in the organization related to data protection and security of computer systems, as well as to estimate and propose a solution.	Inf_UK02 Inf_UO02 Inf_UW07 Inf_UW08
U_11		Inf_UK02 Inf_UO02

	Has practical skills to improve the organization of implementations, risk management, and to organize working time for himself and cooperating people.	Inf_UO03 Inf_UW07
Code	In the range of competence, the student:	Reference to learning outcomes (codes)
K_1	Is able to correctly identify and resolve related dilemmas in practice with the profession of a computer scientist.	Inf_KO02
K_2	Understands the non-technical aspects and effects of engineering activities in the field IT and the related responsibility for decisions made.	Inf_KO03
K_3	Is aware of the social role of the future graduate of the IT department, obliging to observe the rules of professional ethics and care for the achievements and traditions of the profession.	Inf_KR02
K_4	Is able to critically analyze the effects of his work during internships and take into account constructive comments from supervisors and colleagues.	Inf_KK01 Inf_KK02
K_5	Is able to communicate with the environment in the work environment using specialized IT terminology, taking part in debates and meetings.	Inf_KK01 Inf_KK02
K_6	Is able to actively participate in project teams created for the application of information technology in practice and/or independently create and manage such teams.	Inf_KO03 Inf_KK01 Inf_KK02 Inf_KK03

3. Program content

The program content implemented during the professional practice should reflect the specificity of the tasks entrusted to the future graduate of first-level studies on the faculty of computer science.

They include analytical, programming, consulting, administrative, and other tasks.

The main tasks that the student is to perform during the internship are:

- software development - web, internet, or mobile applications, including the creation of the frontend (visual) layer in languages supported by web browsers, as well as the backend (server) layer, in selected high-level languages (it is allowed to use languages discussed during studies and other equivalent programming languages that achieve similar effects);

- development of technical documentation for the created IT solutions, including the division into technical documentation (programmer's), administrator's documentation, and user's documentation;

- manual and the automatic testing of IT systems using automation frameworks or other RPA (Robotic Process Automation) tools, including the development of test suites documentation, as well as scenarios and test cases, precisely defining individual effects that can be achieved;

- designing and managing databases, including developing reports and creating advanced queries, designing the structure of the database, configuration (e.g. replication, implementation in cloud services), and creating database clusters;

- designing and implementing network infrastructure adapted to the needs of the organization, in particular developing an infrastructure project with a list of devices and cabling and a cost estimate, as well as installing infrastructure elements in the company (e.g. in server cabinets, so-called racks) and

further configuration of network devices (routers switches), as well as end devices (computers, or mobile devices of employees);

- creating graphic designs, usability designs (UX), mock-ups, prototypes, wireframes, and any other graphic works.

This is not a full list. Any additional tasks performed as part of the internship, to be accepted by the internship supervisor, must be related to the directional learning outcomes and the effects adopted for the internship.

In addition, during the internship period, the student is obliged to:

- learn about the rules and regulations of occupational health and safety applications in a given organization, and also goals and tasks performed by the unit where the practice takes place;

- learn the rules applicable to them when performing professional activities and tasks in relation to superiors and co-workers, including other employees of the organization in which they do the internship;

- learn the rules of establishing professional contact or relations with co-workers in the organization where the internship takes place and have the opportunity to practice or experience them in practice;

- get to know the ethical principles and legal regulations of the work in the organization, taking into account the specificity resulting from the discipline of technical information and telecommunications and in relation to specific activities and tasks entrusted to him/her to perform;

- get to know and observe professional activities carried out by employees of the organization in which the internship takes place, taking into account the specificity resulting from the discipline of technical information and telecommunications, as well as independent practice performing at least some of these activities during the internship.

The student should be allowed to apply his knowledge to solve specific problems or practical tasks. In the content provided during practice, the relationship between knowledge and its practical use should be emphasized. At the same time, the student should develop an attitude of humility and awareness of the limits of his professional competence.

Tutors should motivate the student to perform the tasks and duties entrusted to him conscientiously and with a sense of responsibility for all possible consequences of his actions. The student's pro-social motivation should also be strengthened.

4. Practice duration

Internships in first-level studies in the field of computer science are obligatory. Their total hour quantity is 725 hours, carried out over 6 months, in semesters 4-8 of studies. A student receives a total of 29 ECTS credits for completing professional practice. It is required to obtain credits for individual semesters of internships.

5. The method of documenting the course of internships and performed tasks

Mandatory documentation of the internship course includes:

1) Referral to internship

2) Agreement on conducting the student to the internship

3) Practice diary

4) Practice credit reports.

Practice Diary - is an obligatory way of documenting the course of the internship and the tasks performed during it. The student keeps their diary and enters the information:

• start and end dates of the internship,

• name of the unit where the student is doing the internship,

• name, surname, position, and contact to the company tutor,

• name, surname, position, and contact to the university tutor,

• learning outcomes list assumed to be achieved by the student during the internship along with the codes assigned to them

• the scope of duties or tasks entrusted to the student and the functions performed

• a daily record of tasks entrusted to the student for implementation, together with the corresponding codes of learning outcomes, the achievement or failure of which is confirmed by the signature of the company internship supervisor or other person supervising their performance,

• final opinion and comments of the company tutor.

6. Conditions for qualifying a student for an internship

A student who wants to do an internship, reports to the university supervisor and declares where and at what time he would like to do it. The university's internship supervisor assesses the adequacy of the Student's proposal, taking into account all the conditions and criteria described in the university's internship regulations and the Internship program for the faculty of administration. The decision to qualify a Student for an internship is made by the university supervisor.

A student is admitted to the internship on the basis of:

a) Agreement on conducting a student internship for a given Student concluded between the university and the unit where the internship takes place,

b) individual referral for internships.

Both of these documents are signed on behalf of the university by the supervisor based on the power of attorney granted by the Rector.

7. Criteria that must be met by organizational units where internships take place

The place of the internship is the organizational unit that allows it. The type of the student's employment contract in a given unit is not important. It is important, however, that the employment dimension corresponds to the period of internship and allows for ongoing supervision of the student, observation of their work, and verification of the achievement. It is recommended for the specificity of the practice place and its tasks to be adequate to the

specialization pursued by the student. However, this is not a requirement if it is justified by the student.

The recommended organizational units for internships :

- the main unit's activity is the implementation of IT services - e.g. entities: software house type (dedicated software development), creating their own IT products (e.g. SaaS type), dealing with cyber security audits, developing visual identification or graphics for the Internet using IT tools, etc. .;

- the main unit's activity is not related to the implementation of IT services, but which have an extensive IT department, with a multi-level structure, with diverse IT issues that the student may encounter.

Special attention should be paid to ensuring that the student can acquire knowledge, skills, and social competencies included in the learning outcomes provided for internships in a given semester of their implementation.

Organizational units where apprenticeships take place must have appropriate infrastructure and equipment to enable the performance of professional tasks, and must also comply with the general rules of occupational health and safety.

University supervisors should maintain ongoing and occasional contact with entities with which the university has signed permanent Memorandums of Understanding, and with its management and/or administration employees employed there. The university supervisor may visit this entity, especially to verify the way the Student performs the internship or to assess the entity's compliance with the standards required of it. The university supervisor should also each time, during conversations with students about the place of their internship, ask for their opinions and observations regarding the qualifications of people taking care of them in a given entity, working conditions, treatment, compliance with occupational health and safety regulations and standards.

In case of receiving information about any disturbing facts related to the place of internship, the university supervisor should immediately personally verify and forward them to the Dean.

In case of gross violations of the terms of the Agreement or failure to meet the required criteria, the Rector terminates the Agreement with this entity.

8. Approving rules for the place of internship chosen by the student

The student can independently choose the place of practice. In this case, the entity must meet all the requirements described in point 7 of this Program. The university supervisor analyses the adequacy of the profile, goals, and tasks of the entity selected by the Student and assesses whether it guarantees to achieve all the learning outcomes assumed for the internship. In particular, the university supervisor verifies that the given entity performs tasks in the field of administration. The student is obliged to obtain the approval of the internship place by the internship supervisor BEFORE undertaking it. Formally, the place of practice is approved by signing the Placement Referral by the university supervisor.

9. Methods of verification and evaluation of students' learning outcomes

The achievement of the individual learning outcomes assumed for practices is verified by:

- company internship supervisor - a person exercising direct supervision over the activities performed by the student, who is a competent specialist in the field of IT, with higher education in IT or has significant professional experience in the field of technical information technology and telecommunications;

- university supervisor of internships within the scope of their powers.

It is possible to verify and assess the student's achievement of learning outcomes during internships using distance learning methods and techniques, when the student performs tasks remotely, without being physically in the organization where the internship takes place. The internship supervisor is then obliged to regular audio-visual synchronous communication with the student to control the progress of work and verify the achievement of individual learning outcomes provided for the internship.

In the Practice Diary, the student enters each day the activities and tasks that they perform and assigns them the appropriate code of learning outcomes provided for the internship. At least one learning outcome in the field of knowledge, skills, and social competencies must be assigned to a given activity. The company tutor watches over the correct assignment of learning outcomes to a given activity or task performed by the student.

The company's supervisor entrusts the student with a scope of tasks and responsibilities consistent with the content described in the internship program, corresponds to the specificity of work in a given organization, and enables the student to achieve all the learning outcomes assumed for the internship. The company's supervisor confirms the achievement or failure to achieve the learning outcomes related to a given task in the Practice Diary. The company's internship supervisor prepares a final opinion on the student and the course of the internship. They can also post their comments and suggestions there.

Examples of criteria that may be followed by the company internship supervisor when crediting the internship include:

- punctuality in performing tasks assigned to the student;
- evaluation of created IT solutions;
- time-consuming tasks;
- compliance with data security standards and legal standards (in particular the GDPR);
- fulfillment of all assumed learning outcomes provided for internships in a given semester of their implementation.

The university's tutor supervises the implementation of the internship on an ongoing basis and analyzes the scope and specificity of the tasks performed by the student. After completing the internship, the university tutor has a conversation with the student about it, its course, and observations as well as the student's experiences. The supervisor gets acquainted with the contents of the Practice Diary, verifies the correctness of the completed number of practice hours, assigning learning outcomes to activities and tasks performed during the practice time. They also check whether the student has achieved all the learning outcomes assumed for the practice, and analyzes the final opinion prepared by the company's supervisor.

In case of doubts, the university tutor resolves them in contact with the student and/or the company tutor. In particularly doubtful cases, the university tutor also consults directly with the Dean.

Based on all the collected data, the university supervisor decides to pass the internship with an entry in the protocol. The protocol together with the documentation of the course of the internship is delivered by the university supervisor to the Student Affairs Office.

To ensure the high quality of the internships, each year the Dean evaluates 10% of randomly selected internship documentation. In the event of significant violations of this program as well as the internship regulations, the Dean may order supplementation of the documentation or, in particular cases, refuse to complete the internship.