MENTORING/TUTORING SCHEME
(METHODOLOGY AND COMPONENTS)

DIGITAL TUTORING/MENTORING

METHODOLOGICAL BASE AND PREREQUISITES

1. **Initial conditions**

Relevance of the scheme:

The forced transition of the HEIs and business to the distance-learning format and remote work with the beginning of the global COVID-19 pandemic significantly increased the requirements for the development of digital skills and competencies of students during university studies to provide their successful entry into the labor market in the future. In these conditions, digital mentoring can be considered as an effective form for developing and actualizing relevant students' digital skills and competencies under the guidance of experienced mentors, which significantly speeds up the process of knowledge transfer and increases its effectiveness.

At the same time, the active spread of artificial intelligence (AI) technologies has significant influence on the labor market, the educational environment, and the "student-teacher" interaction system. Accordingly, universities should be prepared in time for new digital challenges, as well as be able to help students adapt to them. The above mentioned actually proves the relevance of using digital mentoring scheme in HEIs in the digital epoch.

The scheme of digital mentoring can be useful and valuable both for IT students and for students of other specialties. The main request of IT students is regular updating of knowledge and skills of working with modern technologies, which are actively changing as a result of innovative development and scientific and technical progress. The main request of students of non-IT majors is to master the digital skills necessary for favorable employment and successful professional self-realization. Today, the competitiveness of specialists of all specialties directly depends not only on their hard skills, but also on their soft skills, among which the ability to work with modern digital technologies (including artificial intelligence tools) occupies a prominent place. Digital mentoring, together with formal education, will equip university students with digital skills and competencies relevant to the labor market; enable

students to adapt to work in the conditions of the active spread of artificial intelligence.

Target audience:

- students of various specialties who wish to form/develop their skills in using digital technologies and tools in the educational process, scientific research, project work, modern communications, or them;

- IT students who want to improve their professional knowledge and gain practical skills under the guidance of experienced IT specialists.

Needs and requests: to enhance digital skills in a specific area; career advice in IT-sphere; personal development in digital age. Digital mentoring can also provide an opportunity for mentees to expand their professional network with industry professionals or experts in their field of interest as well as master the skills of working with artificial intelligence tools. Some mentees require help in navigating and effectively using digital tools, apps, or software related to their areas of interest or professional development.

Challenges and concerns of future graduates: keeping up with the constant advancements in IT technology can be challenging, as graduates need to stay updated with the latest tools, programming languages, frameworks, and methodologies; digital skills learned during their studies may become outdated quickly, necessitating continuous learning and upskilling to remain competitive in the job market; determining the right specialization within IT can be difficult, as the field is vast, ranging from software development and cybersecurity to data science and artificial intelligence.

Socio-economic challenges: unemployment rates, economic downturns, limited job opportunities in some fields, industry demands, salary levels for specialists with digital skills, high demand of foreign companies for highly qualified IT specialists.

Psychological aspects may include doubts about skills or talents, anxiety about the future. Cultural traditions and environment can shape expectations, attitudes, and perceptions of mentees concerning professional success and the role of digital skills in career development.

Cultural norms and stereotypes may influence their career choices and priorities: “male” vs “female” jobs, “prestigious” jobs vs “jobs for losers”, jobs for introverts and extroverts, jobs for nerds and achievers.

Aspirations, goals, prospects: financial stability, professional recognition, personal fulfillment, and opportunities for growth and advancement, making meaningful contributions in their respective fields.

Risks and fears: risk of being underprepared for the competitive job market, encountering challenges in finding suitable employment, or experiencing difficulty in adapting to work environments due to a lack of digital skills; concerns about one's own competitiveness in the era of the spread of artificial intelligence.

2. **Vision of the target audience after and due to mentoring**.

As a result of the application of the digital mentoring scheme, the mentees will acquire new digital skills and become more confident in their ability to quickly master innovative digital technologies. Thanks to participation in mentoring program, they will be technological leaders, able to navigate and influence the dynamic digital landscape, quickly adapt *to* emerging technologies, solve complex problems, use artificial intelligence tools and technologies in their professional activities. The scheme might aim to empower mentees to build impactful digital portfolios, fostering a generation of professionals who harness data for informed decision-making and drive innovation. Thanks to participation in this scheme, mentees will gain higher competitiveness in the labor market and realize themselves as modern professionals.

3. **The ambitions of mentoring**

The ambition of mentoring is to support students in developing digital skills and to promote inclusivity and diversity in mentorship opportunities.

The main goals of the mentoring program include: connecting mentees with mentors relatively to their needs in digital skills' development, professional experience and backgrounds; fostering a supportive environment where individuals from all spheres can benefit from sharing knowledge and building fruitful mentoring relationships; providing mentees with continuous access to mentors who can help them stay updated with the latest industry trends, and best practices in using digital technologies, ensuring their professional growth and adaptability.

4. **Values**

- tolerance;
- inclusiveness;
- voluntariness;
- openness and flexibility;
- creativity and innovation;
- proactivity;
- balance;
- effectiveness;
- making connections.

5. **The aim of the mentor/tutor's cooperation with a specific target audience**

The aim of applying the scheme: equipping mentees with digital skills that meet the current demands of the labor market; development mentees' digital literacy; deepening of professional knowledge of IT students; development of competencies of students of non-IT specialties in the field of application of the latest digital tools and technologies (including artificial intelligence) in professional activities.

The result: a highly qualified specialist who is competitive on the labor market, able to quickly master innovative digital technologies (including artificial intelligence), implement digital tools in his/her professional activity and generate new digital solutions in his/her professional field.

6. **Methods:**

6.1. **Engagement of mentors**

A mentor is a practitioner, a specialist in the IT sphere or another field, who has expertise in the digital area.

Involvement of mentors within the framework of the scheme will be carried out mainly through cooperation with the project's industry partners (IT cluster or other industrial clusters, IT companies, other business entities, non-governmental organizations or other institutions). Specialists in the IT industry (both IT specialists and representatives of non-IT professions) will propose topics and projects for work with mentees depending on their experience and competencies. In addition, requests for potential mentors will be forwarded to other relevant partners of the university through the Career Development Center, as well as discussed and presented at the Employers' Council. Mentors will be engaged based on the principles of

voluntariness, motivation to transfer experience to mentees, relevance of competencies and students' needs.

6.2. **Selection of mentee**

A mentee is a student of IT or any other specialty of the University who seeks to update his/her knowledge and develop and/or deepen his/her own digital skills.

Approaches to the selection of mentees:

- at the request of an IT student who expresses a desire to deepen his/her own professional skills, beyond the scope of the educational program at the University;

- at the request of students of any specialty and any course of study who wish to develop their digital skills, improve their ability to use modern educational technologies and digital learning tools;

- at the request of the teacher/supervisor who recommends the student to improve his/her digital skills (including talented students engaged in scientific activities).

Principles of involvement of mentees: The involvement of mentees is voluntary with the understanding that they are interested in their own development and leadership. Approaches to engaging them include an open application process, a cover letter, clear communication of the program’s goals and expectations, and ongoing support to ensure that they can fully benefit from the mentoring relationship.

Detailed selection criteria will depend on the specific mentor and company and will be communicated to all participants at the beginning of the selection.

6.3. **Mentor-mentee interactions**

Matching criteria: motivation for digital skills development, desire and readiness to acquire digital tools and develop digital skills, digital vector in career aspirations, compatibility with expectations and the mentors' experience, shared system of goal setting and project management values.

When the mentor-mentee interaction begins, mentor acts as a facilitator, helping the mentee to master tools, implement projects, etc. The mentor constantly encourages and supports the mentee, motivating them to achieve results, provides feedback.

Preference for participation in the program will be given to mentors who have completed relevant training programs and/or have previous successful mentoring experience.

The main forms of interaction are systematic meetings and online communication. Meetings can be scheduled in person (offline) or virtually (online). Project management tools and online boards can be helpful in providing a structured space for discussions, teamwork, goal setting and progress tracking. Additional communications can be organized via Telegram, Viber, Wat's-up, and E-mail. Training, facilitating, coaching, personal and group support and counseling during project implementation are the main methods that should be used.

7. **Mentor-mentee interaction approaches**

A combined approach will be used in the organization of "mentor-mentee" interaction. Depending on the specifics of the events, individual and group work (internships, work on projects, participation in meetings, public lectures, mentoring sessions, workshops, etc.) will be used.

Since one of the key principles of this mentoring scheme is openness and flexibility, the "mentor-mentee" interaction will not be implemented according to a rigidly approved schedule, but as the need (demand) arises. This will make it possible to harmonize the mentee's educational schedule and the mentors' work schedule as much as possible.

The main requirement for "mentor-mentee" interaction is systematic, not fragmentary cooperation. Systematic interaction will allow building relationships of trust, establishing effective communication, and finding a mutually acceptable format for exchanging knowledge and ideas.

During the selection process for the mentorship program, mentors are encouraged to clearly describe the areas in which they have experience and are willing to share their knowledge. Mentees are also asked to outline their goals and expectations in order to align and coordinate their objectives.

Other forms of interaction and support between mentors and mentees which could be used:

- **Networking Events**: Opportunities for mentors, mentees, and industry professionals to connect, fostering a supportive network within the digital community.

- **Webinars and Workshops**: The possibility of hosting sessions on emerging digital trends, tools, and skills, enabling mentees to stay abreast of industry advancements.
- **Peer-to-Peer Collaboration**: Encouraging collaboration among mentees, creating an environment where they can share insights, challenges, and experiences with one another.
- **Online Forums or Communities**: Establishing a platform (group of social media or forum for mentors, mentees) to engage in ongoing discussions, resource-sharing, and mutual support.
- **Skill Development Challenges**: Organizing periodic challenges or tournaments based on using digital skills, motivating mentees to apply their knowledge in practical cases.
- **Progress Tracking Tools**: Exploring tools or platforms that facilitate mentors and mentees in tracking progress, setting goals, and exchanging feedback throughout the mentoring journey.

MODEL OF THE MENTORING CHEME

8. Algorithms for selecting mentors and mentees

1. Identify the pool of potential mentors:
    - establishing contacts with specialists of the IT cluster/other industrial clusters, IT companies, other enterprises, institutions and organizations, alumni networks and professional associations, etc.;
    - advertising the mentorship program and announcing the recruitment of mentors for its implementation through university communication channels and social network platforms.
2. Application:
    - interested persons (potential mentors) are invited to create profiles on the IT platform highlighting their qualifications, experiences, and if relevant, project proposal.
3. Screening & interview:
    - reviewing profiles of potential mentors based on defined selection criteria;
    - assessment of the mentors' availability and commitment to the program during interview

Mentor qualifications and requirements:

- At least 2 years of practical experience, successful career progression, or leadership roles.
- Expertise and specialized knowledge in digital areas relevant to the mentees' professional goals.
- Communication and interpersonal skills, ability to provide constructive feedback, and foster a supportive learning environment.
- Availability to share experiences and to provide support to mentees.
- Readiness to maintain confidentiality, respect mentees' boundaries, and act in the mentees' best interests.
- Adaptability to diverse learning styles and cultural backgrounds
- Ability to demonstrate proficiency in relevant digital tools and fostering inclusivity within the mentoring relationship.

All potential mentors should participate in mandatory training.

Algorithm for Selecting Mentees:

1. Launch an open call for mentee applications:
    - Advertise the mentoring program through university channels, social media platforms, and relevant networks.
    - Communicate the purpose of the program and the criteria for participation (being a current student of a specific institution, demonstrate a commitment to actively engage in the mentoring program, have clear goals or areas of focus for their mentoring experience, willingness to learn from their mentor's experiences and insights etc.).
2. Application and project proposal submission:
    - Invite prospective mentees to create profiles at the IT-platform, including their background information and a project proposal. In the project proposal, mentees should outline their motivation, expectations, level of digital skills, and areas where the guidance from experienced professionals will promote their career development.

Next steps:

1. Matching mentors and mentees using algorithms of the IT-platform;
2. Organizing an introductory meeting or orientation to introduce mentees and mentors, clarify expectations, establish communication guidelines, and set project milestones.

9. **Procedures**

• organization of mentor-mentee interaction

1. Creating a register of mentors on the Mentoring and Tutoring Platform. This register contains:
    - names of mentors, their positions, phone, email, links to pages in social networks;
    - areas of competence (knowledge, skills, experience);
    - proposals and interests in the implementation of mentoring programs.

2. The specialist from the Tutoring and Mentoring Center is responsible for collecting requests for the necessary mentoring support and selects mentors according to the necessary knowledge and experience.
3. Meetings of the mentors with the mentees take place in accordance with the agreed plan.
4. Monitoring of the mentorship results: once every six months, the mentees takes a survey regarding the current results of their cooperation with the mentors and needs for the future; at the end of the mentoring period, the mentor writes feedback to the Mentoring and Tutoring Center regarding the mentoring results.

• quality monitoring

The objective of this quality monitoring is to assess the effectiveness of the mentoring scheme by measuring specific outcomes, evaluating criteria, and employing relevant indicators and measurement methods.

Desired outcomes	**Evaluation criteria and indicators**	**Monitoring tools**
Increasing the mentee's level of confidence in using digital technologies and tools to solve	• Mentees demonstrate increased confidence in the use of digital tools and innovative computer technologies in the educational process, scientific research,	Mentor’s report, surveys, questionnaires, focus groups, interviews, self-

educational goals and professional tasks	project work, networking and communications, personal branding, etc.; • mentees demonstrate an improved ability to adapt to a new educational and professional environment, including integration into the IT community; • the mentee's academic performance and professional orientation improves	reflection journals, and mentee's self-reports
Successful integration of mentees into professional communities	• Mentees participate in various events on digital skills development organized by the IT community • Mentees establish new contacts with peers and representatives of the local community and local IT business (IT cluster)	Report on attended events on digital skills development, surveys, questionnaires, focus groups, interviews, self-reflection journals, mentee's self-reports, mentor's report
Development of career aspirations of mentees based on the use of the latest digital skills in IT and non-IT fields	• Mentees have clear, realistic career goals in IT and non-IT areas and demonstrate an understanding of the necessary steps for their achieving; • Mentees demonstrate increased confidence in overcoming career challenges (mainly due to their digital skills and ability to adapt to work with new technologies); • mentees demonstrate the development of skills relevant to their chosen IT and non-IT careers.	Review of the mentee's career plan, discussion with the mentor during mentoring sessions, internships, interviews / employment, surveys, questionnaires, mentor's reports, mentee's self-assessment reports, mentor's feedback, confirmation of skill development

		(certificates, recommendations, etc.)
Increasing the level of mentee's competitiveness on the labor market	• The digital skills acquired within the mentoring program provide the mentee with a competitive advantage in the workplace; • thanks to the gained experience, mentees demonstrate improved problem-solving and professional decision-making skills	Tracking progress in achieving goals, feedback from mentors or teachers; discussions during mentoring sessions, mentee's self-report.

• ***performance control***

The objective of this performance control is to ensure effective monitoring and evaluation of the mentoring scheme. The plan includes specific tasks with descriptions and measurable Key Performance Indicators (KPIs) to assess the program's performance.

Task	Description	KPI
Action plan implementation	Evaluation of action plan implementation based on quantitative and qualitative indicators	• Total number of "mentor-mentee" meetings held; • frequency and duration of planned and actual "mentor-mentee" meetings; • quantitative and qualitative indicators of satisfaction with the work of mentors based on the results of the mentee's survey and received feedback
Achieving the goal of the	Assessment of reaching long-term and short-term goals that	• Percentage of mentees who achieved the defined goals within the agreed term;

mentoring program	have been previously set by mentees	• percentage of successfully or partially achieved goals set for the mentee; • the number of mentees who had completed the action program developed under the guidance of the mentor
Development of mentees' digital skills	Assessment of progress in the formation and development of mentees' digital skills	• The number of mentees who developed the level of digital skills under the guidance of a mentor according to the provided feedback; • the number of mentees who participated in additional activities for the development of digital skills (conferences, seminars, trainings, hackathons, projects, etc.); • the number of mentees who published theses, scientific articles, received certificates and honors (diplomas for winning prizes) in events for the development of digital skills under the guidance of mentors
Involvement of mentors	Evaluation of mentor's activity and level of involvement in the digital mentoring program	• Total number of involved mentors; • the ratio of the number of submitted applications from the mentee to the total number of appointed mentors; • the number and share of mentors who regularly contacted the mentees;

		• share of mentors participating in mentoring programs for more than one year
Involvement of mentees	Evaluation of mentees' activity and level of involvement in the digital mentoring program	• Total number of involved mentees; • number and percentage of mentees who provided feedback on the results of the mentoring program; • percentage of mentees who completed the full mentoring program as it was planned
Communications and networking	Evaluation of the effectiveness of established methods of communication between mentors and mentees, coordinators of the mentoring program from the T&M Center and the professional IT community	• A communication channel has been created (group or individual chat); • mentors' reports are filled in on time; • at least 90% of mentees who were under individual mentoring support provided feedback; • the number of new professional contacts established by the mentee with representatives of the IT community thanks to participation in the mentoring program

• ***level of satisfaction evaluation (based on pre-defined criteria and indicators)***

Subject	**Focus of Evaluation**	**Possible Methods of Evaluation**

Mentors	• General impression of the mentor from participation in the mentoring program; • satisfaction with the level of training organization for mentors at the beginning of the mentoring program; • the effectiveness of "mentor-mentee" interaction; • coordination of the program by the university Tutoring and Mentoring Center; • the effectiveness of informational support of the mentoring program	• Mentor's survey • Individual interviews or focus groups • Mentor's feedback forms or questionnaires • Indicators on mentors' attracting and retaining
Mentees	• General impression of the mentee from participation in the mentoring program; • quality of mentoring support and support received from mentors; • progress achieved in reaching the goals and implementation of the activity plan within mentoring program for the development of digital skills; • the impact of mentoring on the mentee's personal and professional development; • the relevance of the mentoring experience for the future career	• Mentee's survey • Individual interviews or focus groups • Self-reflection journals or self-assessment reports • Analysis of mentee's feedback and program completion rates
Administration of HEI	• Effectiveness of the mentoring program in achieving the desired results; • the relevance of the obtained results and feedback from mentors and mentees for improving the mentoring program in the future; • effectiveness of program administration and coordination; • the influence of mentoring on the mentee's academic performance	• Assessment of feedback from the administration and program coordinators • Analysis of mentors' reports and mentee's questionnaire results • Analysis of students' academic performance

Methods of Evaluation:

- Surveys or questionnaires: Structured surveys with Likert scale or open-ended questions.
- Interviews or focus group discussions: In-depth conversations to gather qualitative feedback.
- Performance evaluations: Assessing mentees' progress based on predetermined criteria.
- Documentation analysis: Reviewing program reports, feedback forms, or reflective journals.
- Direct communication: Engaging in one-on-one conversations or meetings with stakeholders.

The procedure should ensure confidentiality and anonymity in the evaluation process to encourage honest and open feedback. Regular monitoring and follow-up should be conducted to track progress and address any areas for improvement identified through the evaluation.

10. **Forms of work**

- **Internship**. The purpose of the internship is to form and develop practical skills based on the acquired theoretical knowledge for further employment of the graduate. The student is assigned a mentor who helps to draw up a plan (schedule) for the internship, and then organizes the implementation of the planned activities.
- **Practical training**. Practical training of students as part of the curriculum can be implemented in the form of mentoring. This format is typically suitable for IT students, as well as for non-IT students, but based on the digital sector. A mentor is assigned individually to a mentee or to a small group of mentees. The practice takes place according to the defined plan, the mentee receives individual tasks from the mentor. The mentor contributes to the acquisition of practical experience in the professional direction for the mentee.
- **Projects**. Mentors can engage mentees in projects to enable them to apply digital skills to solve real-world problems and have the opportunity to network in a professional community. Projects can be offered by a mentor from the professional sphere (involvement in the development of IT products, developing ideas for digital solutions, current projects) and social/volunteer (digital solutions to solve social problems). Mentees will be able to choose projects depending on their own interests. Mentoring in the format of projects will be implemented according to a pre-agreed plan, and will also include

situational tasks. Interaction in projects, as a rule, will be team-based with the use of project management tools and online calls to establish communication and discuss tasks and results.

- **Mentoring sessions** - individual or group meetings between a mentee and a mentor. The purpose of mentoring sessions can be to get advice from mentors on career growth in the IT field for both IT students and non-IT specialists, recommendations on finding a job or transitioning to a digital profession. The goals of mentoring sessions can be to develop specific tools for the development of your digital project or digital product. A mentoring session is an online meeting with a discussion of pre-defined issues lasting 1 hour. Platforms for conducting: Zoom/MS Teams/Google meet/Discord/Telegram (video call) or alternative communication channels.

11. Information support

1) IT-platform with the following functionality (General for all):
   1. **User Registration**: The platform would allow mentors and mentees to create their profiles by providing relevant information such as their name, contact details, areas of expertise, and preferences.
   2. **Matching Algorithm**: An advanced matching algorithm would be implemented to pair mentors and mentees based on various criteria, such as subject expertise, availability, and specific mentoring needs. The algorithm would ensure the best possible match for both parties.
   3. **Search and Filtering**: The platform would offer search and filtering options to help mentees find mentors based on specific criteria, such as subject, academic level, or availability. This feature would allow mentees to explore the available mentor profiles and choose the one that best fits their requirements.
   4. **Communication Tools:** The platform would provide communication tools to facilitate interaction between mentors and mentees. This might include messaging systems, video conferencing capabilities, or integrated chat features, allowing seamless communication and collaboration.
   5. **Scheduling and Calendar Integration**: To simplify the scheduling process, the platform could offer integrated calendars or scheduling tools. Mentors and mentees would be able to coordinate and schedule mentoring sessions based on their availability, with automated reminders and notifications.

6. **Progress Tracking and Feedback**: The platform would enable mentors and mentees to track their progress and provide feedback on the mentoring sessions. This could include features for recording session notes, setting goals, and evaluating the overall mentorship experience.
7. **Resource Sharing**: The platform might include a repository of educational resources, study materials, or reference materials that mentors can share with their mentees. This feature would facilitate knowledge transfer and support the learning process.
8. **Analytics and Reporting**: The platform could generate analytics and reports to track the effectiveness of the mentoring program. This might include metrics such as session duration, frequency of interactions, and mentee progress. These insights can help improve the mentorship program and identify areas for enhancement.
9. **Security and Privacy**: The platform should prioritize data security and privacy by implementing measures such as secure user authentication, data encryption, and compliance with relevant regulations (e.g., GDPR). It should also ensure that users have control over their personal information and can set their privacy preferences.
10. **Mobile-Friendly Interface**: To enhance accessibility and convenience, the platform should have a mobile-friendly interface or even dedicated mobile applications. This would allow mentors and mentees to access the platform and engage in mentoring activities from their smartphones or tablets.

2) **Database structure** specific for each scheme – internal accounting system

For mentors

#	First name	Last name	Organi-zation	Position	Key expertise field	Possible projects for involvement / possible mentoring support

For mentees

#	First name	Last name	Year of study	Major (specialty)	# of academic group	Your needs and expectations of mentoring program, level of specific skills you wish to develop (web-design, web-development etc.)

3) **Other external sources:**

1. **Websites of IT-companies, web-site of IT-cluster**. On these websites you can find profiles of specialists, their achievements and expertise.
2. **Social media and professional networks**. These profiles can provide information about specialists` career, skills and projects they have been involved in.
3. **Public events, guest lectures**. Visiting these events will help students to know more about IT-companies and their staff, understand the expertise and how it could help in future career.

12. **Resource provision**

Resource Provision for the above-mentioned measures encompasses various elements required for the effective organization and implementation of mentor-mentee interactions. The following resources are crucial for creating an optimal learning environment:

1. Specialized Classrooms: Dedicated educational classrooms are essential for conducting in-person sessions, workshops, and problem lectures. These classrooms should be equipped with modern facilities such as projectors, computers, and comfortable seating arrangements. Specialized classrooms provide a conducive environment for interactive discussions, presentations, and collaborative activities.
2. Equipment and Software: In addition to specialized classrooms, it is important to provide the necessary equipment and software to support the learning activities. This includes access to computers, laptops, tablets, or other devices that participants can use to engage with digital resources, complete assignments, and collaborate online. Additionally, software applications and tools such as project management tools, graphic redactors and others should be made available to enhance the learning experience.
3. Online Learning Platforms and Resources: Utilizing online learning platforms, such as Moodle or other learning management systems, provides a centralized hub for accessing educational materials, submitting assignments, participating in discussions, and engaging with mentors or tutors remotely. These platforms facilitate the organization of courses, tracking of progress, and interaction between participants. Additionally, online resources such as e-books, videos, interactive modules, and online libraries can supplement the learning process and provide additional learning opportunities.
4. Qualified Personnel (the roles we propose to be common): Having a team of qualified personnel is essential for the successful organization and implementation of mentor-mentee interactions. This includes experienced mentors, educators, and facilitators who possess subject expertise, pedagogical knowledge, and the ability to provide guidance and support to learners. These personnel play a crucial role in creating a nurturing and engaging learning environment, fostering meaningful interactions, and tailoring the learning experience to meet the individual needs of participants.

Mentoring Coordinator/Program Administrator: is responsible for the overall management and administration of the mentoring program. This role involves overseeing resource provision, ensuring availability of necessary facilities, and coordinating logistics. The Coordinator also maintains communication channels and addresses any challenges related to resource access or utilization. The focus is on creating an efficient and effective program environment.

Program Managers: are responsible for the successful engagement of mentors and mentees within the program. They coordinate the collaboration between mentors and mentees, analyze program results, and develop suggestions for program

improvement. The Program Managers play a crucial role in ensuring the program's effectiveness and impact by managing mentor-mentee relationships and continuously enhancing the program's quality.

Technical Expert: The Technical Expert provides guidance and support in utilizing equipment, software, and specialized resources. They offer expertise in technical matters, helping program participants troubleshoot any technical issues that may arise. The Technical Expert ensures efficient resource utilization by assisting mentors and mentees in utilizing technology effectively, enhancing the overall program experience.

Trainers/Facilitators: Trainers/Facilitators conduct demonstrations, provide training sessions, and facilitate open events for mentors and mentees. Their role is to deliver educational content, equip program participants with necessary skills, and create an interactive learning environment. By facilitating the transfer of knowledge and fostering engagement, Trainers/Facilitators empower mentors and mentees to build successful mentoring relationships and achieve their goals.

5. Wi-Fi Connectivity: Access to a reliable Wi-Fi network is necessary for seamless online communication, access to digital resources, and engagement with online platforms. A stable internet connection allows participants to actively participate in virtual sessions, access online materials, and collaborate with mentors, mentees and peers.
6. Multi-Lingual Support: include multi-lingual support to accommodate a diverse user base, ensuring that language barriers do not hinder effective communication.
7. Accessibility Features: Prioritize accessibility features to cater to users with diverse needs, ensuring the platform is inclusive and can be easily navigated by individuals with disabilities.
8. Offline Support: Incorporate features that allow users to access essential information and resources offline, facilitating continued engagement even in low-connectivity situations.

13. **Regulations**

Regulation for implementing the mentoring program within the university: common to all

1. Objectives and scope of the mentoring program (as indicated in the Section METHODOLOGICAL BASE AND PREREQUISITES)
2. Program administration - roles and responsibilities of program coordinators, mentors, and mentees, along with any specific reporting or documentation requirements (as indicated in the relevant Section of this document)
3. Mentor selection and qualifications (as indicated in the relevant Section of this document).
4. List of competencies that mentees should develop by the end of the mentoring program.
5. Mentee enrollment and matching criteria (as indicated in the relevant Section of this document).
6. Mentoring Process and Activities (as indicated in the relevant Section of this document).
7. Evaluation and quality assurance (as indicated in the relevant Section of this document)
8. Confidentiality and Ethics
9. Complaints and Conflict Resolution
10. Resource Access Guidelines

List of competencies for mentees

By the end of the program, mentees will have acquired the following knowledge, skills, and attitudes:

Knowledge:

- Technical Understanding: Mentees should gain a solid understanding of IT concepts, technologies, and tools relevant to their chosen domain (e.g. regarding the selected direction, software development, data analytics, cybersecurity, web-design, project management etc.). Programming languages/frameworks and exact technologies will depends on mentor/mentee and could includes: C++, Python, Java, PHP, Perls, JS and others
- Industry Trends: Staying updated with the latest trends, innovations, and advancements in the IT industry will help mentees remain competitive and adaptive.
- Project Management: Understanding the fundamentals of project management, including approaches to planning, organization, and time tracking, is crucial for successful project execution.

- Agile Methodology: Familiarity with Agile practices, such as Scrum and Kanban, will help mentees adapt to fast-paced development cycles and enhance their teamwork abilities.
- Data Literacy: In today's data-driven world, being comfortable with data analysis, interpretation, and data-driven decision-making is invaluable.
- Cybersecurity Awareness: Mentees should be aware of basic cybersecurity principles and practices to safeguard their work and contribute to a secure digital environment.
- User Experience (UX) Design: Understanding user-centric design principles will enable mentees to create more intuitive and user-friendly digital products.
- Ethical Considerations: Learning about ethical implications in IT, including data privacy, AI ethics, and responsible AI development, will foster responsible and conscientious IT professionals.

Skills:

- Coding Proficiency: Acquiring proficiency in relevant programming languages and frameworks will be essential for mentees pursuing technical roles.
- Troubleshooting and Debugging: Developing the ability to identify and resolve technical issues efficiently is a crucial skill for IT professionals using Information Gathering, Analysis and Planning, Implementation of a solution, Assessment of the effectiveness of the solution, Documentation of the incident as Troubleshooting techniques.
- Data Analysis Tools: Learning how to use data analysis tools (R, Excel, Power BI etc.) will empower mentees to make data-driven decisions.
- Adaptability and Flexibility: Cultivating adaptability in the face of rapidly changing technology and project requirements will help mentees thrive in the IT industry.
- Collaboration and networking: Strengthening collaboration skills will enable mentees to work effectively in diverse and cross-functional teams. Building professional networks and engaging in industry events will open up opportunities for mentees to grow their careers.
- Communication Skills: Improving both written and verbal communication skills will aid mentees in articulating ideas, collaborating with teams, and presenting their work effectively.

- Problem-Solving: Developing the ability to analyze complex issues, break them down into manageable components, and implement effective solutions is essential in IT roles.
- Time Management: Learning to manage time effectively and prioritize tasks will improve mentees' productivity and work-life balance.
- Critical Thinking: Enhancing critical thinking abilities will help mentees evaluate situations objectively and make well-informed decisions.
- Presentation Skills: Developing strong presentation skills will aid mentees in showcasing their work and ideas with confidence.
- Continuous Learning: Cultivating a mindset of continuous learning and seeking opportunities for self-improvement is essential in the ever-evolving IT field.

Attitudes:

- Proactive Approach: Encouraging a proactive attitude will empower mentees to take initiative and seek solutions independently.
- Open to Feedback: Being receptive to feedback and using it constructively to improve their skills and performance is a valuable attitude.
- Resilience: Cultivating resilience in the face of challenges and setbacks will enable mentees to persevere and grow in their careers.
- Innovative Thinking: Fostering an innovative mindset will encourage mentees to think creatively and propose novel solutions to problems.
- Team working: Emphasizing the importance of teamwork and valuing the contributions of others will make mentees effective collaborators.
- Adaptability: Encouraging mentees to be adaptable and embrace change will help them thrive in dynamic IT environments.
- Curiosity: Instilling a sense of curiosity will motivate mentees to explore new technologies and stay curious about emerging trends.
- Diversity and Inclusion: Encouraging an inclusive mindset and valuing diversity in all forms will create a positive and welcoming IT community.
- Ethical Integrity: Emphasizing the importance of ethical behavior and integrity will foster a sense of responsibility and trustworthiness in mentees.

14. **Methodological support**

1. Agreement with a mentor – common to all

2. Agreement with mentee – common to all
3. Guideline for Digital Mentoring

Table of Contents:

15. **Infrastructural support for mentoring in HEIs**

Infrastructural support for mentoring/tutoring HEIs is provided by the Tutoring & Mentoring Center (T&M Center). It is responsible for overseeing and coordinating the mentoring/tutoring programs within the institution and serves as a central point of contact for mentors/tutors, mentees/tutees, and other stakeholders involved in the mentoring/tutoring process. It facilitates communication, coordination, and quality assurance, ultimately contributing to the positive educational experiences and professional development of mentees/tutees.

The main tasks of the T&M Center include:

1. Mentors/tutors recruitment and training: running mechanisms for recruiting and selecting qualified mentors/tutors from both internal and external sources, as well as providing training programs and workshops to equip mentors/tutors with the necessary skills, knowledge, and competencies to effectively guide and support mentees/tutees.
2. Mentees/tutees enrollment and matching: collecting mentee/tutee preferences, academic needs, and career aspirations, and matching them with suitable mentors/tutors based on compatibility and expertise.
3. Information and communication support: establishing communication channels such as dedicated email addresses, IT-platform, social media channels and providing information about the mentoring/tutoring programs, guidelines, resources, and important updates.
4. Monitoring and evaluation of the mentoring/tutoring programs to ensure their effectiveness and continuous improvement. Mechanisms are in place to collect feedback from mentors, mentees/tutees, and other stakeholders, and to conduct assessments or surveys to gauge program outcomes and impact.
5. Providing resources and support materials related to mentoring/tutoring: online libraries, databases, handbooks, and guides that mentors, mentees/tutees, and program coordinators can utilize for reference and professional development.
6. Providing administrative support to assist with program logistics, scheduling mentor/mentee or tutor/tutee meetings, and handling administrative tasks related to the mentoring/tutoring process.
7. Reporting and documenting mentoring/tutoring activities, progress reports, and outcomes.

16. **Psychological support for mentoring in HEIs**

Psychological portrait: a mentee is a University student of any course of study and field of study (specialty), who possesses the following traits: independence (self-control and self-organization), responsibility, perseverance, purposefulness, and the desire for continuous self-development. The specificity of the target audience of digital mentoring is that it can be conditionally divided into two subgroups depending on the attitude of students to professional training and their extracurricular interests:

The 1st subgroup - students of mostly non-IT specialties, who have a comprehensive approach to professional training, are focused on broad specialization and versatile in-depth professional training; have broad cognitive interests, proactive, inquisitive;

The 2nd subgroup - students of mainly IT specialties who are clearly focused on a narrow specialization, persistently deepen their knowledge in the chosen field (emphasis on those knowledge and skills that, in their opinion, are necessary for their future professional activity); are distinguished by high purposefulness in the movement towards professional self-development and growth, while not showing proper interest in related sciences and areas of activity.

Risks: the probability of choosing the wrong tools of interaction, methods of motivation and channels of communication with students depending on the peculiarities of their temperament, character and psychological type.

Potential psychological problems (difficulties) – stress; communication and social interaction difficulties caused by the distance learning format; emotional exhaustion and fatigue; despair and loss of self-confidence.

The psychological service is professionally engaged in identifying and leveling psychological problems (difficulties) of mentors and mentees at the university. The psychological service of the university conducts individual and group consultations for students, teachers and employees on an ongoing basis, free of charge and confidentially. Mentees and mentors can receive psychological counseling on problems of overcoming complexes, increasing self-confidence, solving conflict situations, getting out of stressful and depressive states, problems in communicating with peers, teachers, parents, problems during the adaptation period, as well as personal problems.

Upon request, the university psychological service can conduct specialized trainings for mentors and/or mentees.

To enhance the digital mentoring experience, it might be beneficial to tailor communication strategies based on the unique characteristics of students. This includes emphasizing interdisciplinary aspects for non-IT students and underscoring the relevance of digital skills for those in IT-focused fields. Considering the external stressors, the integration of supportive mechanisms within the mentorship program, like periodic check-ins, stress management resources, and sessions addressing the psychological impacts of current events, could contribute to a more empathetic environment. Encouraging a proactive approach to well-being can involve implementing flexible interaction tools, offering mental health awareness training for mentors and mentees, and establishing peer support networks. These measures ensure the program remains responsive to the evolving needs and challenges that students may face.