**(Vilniaus universiteto studijų dalyko (modulio) aprašo tipinė forma anglų kalba)**

**COURSE UNIT (MODULE) DESCRIPTION**

| Course unit (module) title | Code |
|---|---|
| **Digital competences for the 21st century** | |

| Academic staff | Core academic unit(s) |
|---|---|
| **Coordinator: assoc. prof. Gabrielė Stupurienė**<br><br>**Other(s): prof. dr. Filiz Kalelioğlu**** *In a non-recurring way, the course will also give place to theoretical and practical interventions of foreign researchers and experts in the field.* | Institute of Educational Sciences, Vilnius university |

| Study cycle | Type of the course unit |
|---|---|
| Bachelor | Elective |

| Mode of delivery | Semester or period when it is delivered | Language of instruction |
|---|---|---|
| Blended | Spring | English |

| Requisites | |
|---|---|
| **Prerequisites:**<br>Satisfactory level of English language proficiency | **Co-requisites (if relevant):**<br>Group size max. 16 students |

| Number of ECTS credits allocated | Student's workload (total) | Contact hours | Individual work |
|---|---|---|---|
| 5 | 130 | 48 | 82 |

**Purpose of the course unit**

The aim of the course is to empower students with the ability to confidently, critically, and responsibly engage with and utilize digital technologies for learning, in the workplace, and in society. The primary objective is to enable students to navigate the digital world effectively and efficiently, use digital tools to their full potential, protect themselves from digital risks, and contribute to society in the digital realm.

The purpose of the course unit is to introduce students to the theoretical basics of the digital competence framework and to develop students' digital competences in terms of knowledge, skills, and attitudes towards the digital era. In the course, students will become familiar with the key components of digital competence as information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving.

**Generic university competences:**

**1.2. Responsibility:** This competence corresponds to the ability to responsibly plan and use digital resources for education, choose appropriate technologies and ensure the digital safety and well-being of students.

**1.4. Problem Solving:** This competency is directly related to the area of digital problem solving (DigComp competencies 5.1–5.4), where teachers are able to use technology innovatively, critically and creatively to solve educational challenges.

| **1.5. Openness to change:** This competence includes the acceptance of digital transformation and continuous learning, which is directly related to the ability to innovate in the technological era and motivate others to engage in digital education. | | |
|---|---|---|
| **Learning outcomes of the course unit** | **Teaching and learning methods** | **Assessment methods** |
| Students will be able to explain the digital competencies framework. They will be able to explicate current literacies required for 21st-century society *(Subject competencies of the study program 3.1; 5.1; 5.4).*<br>Students can use digital technologies to search and manage the data and digital content. *(Subject competencies of the study program 3.2; 5.3; 5.4).*<br>Students will be able to use digital technologies for communication and collaboration. Students will be able to develop and edit digital content in different formats. *(Subject competencies of the study program 3.2; 5.4; 5.5).*<br>They will be able to create a sequence of instructions for a computing system with the aim of solving a given problem or performing a specific task. *(Subject competencies of the study program 3.2; 5.2; 5.3).*<br>Students will be able to explain how to protect devices, digital content, personal data, and privacy in digital environments. *(Subject competencies of the study program 5.5).* | Problem-oriented teaching;<br>Active learning;<br>Interactive lectures;<br>Visualizations;<br>Self-assessment;<br>Group work;<br>Discussions in pairs and in groups. | Active participation in discussions during the seminars;<br>Evaluation of the prepared individual work;<br>Evaluation of the prepared group work. |

| **Content** | **Contact hours** | | | | | | | **Individual work: time and assignments** | |
|---|---|---|---|---|---|---|---|---|---|
| | Lectures | Tutorials | Seminars | Workshops | Laboratory work | Internship | **Contact hours, total** | **Individual work** | **Tasks for individual work** |
| 1. What are digital competences? Digital competences for citizens. Digital competences for educators. Various DC frameworks. STEAM and 21st Century Skills. Computational thinking skills. AI literacy. | 4 | | | | | | 4 | **8** | Self-study of literature<br>to deepen knowledge.<br>Preparation for active participation in seminars. |
| 2. Digital competences self-assessment tools, proficiency levels, and results interpretation. | 2 | | 4 | | | | 6 | **6** | |
| 3. Area – Information and data literacy: browsing, searching and filtering data, information and digital content. Evaluating and managing data, information and digital content. | 2 | | 4 | | | | 6 | **8** | |
| 4. Area – Communication and collaboration: interacting, collaborating and sharing through digital technologies. Netiquette, managing digital identity. | 2 | | 6 | | | | 8 | **10** | |
| 5. Area – Digital content creation: developing, integrating and re-elaborating digital content. Copyright and licenses. Programming. | 2 | | 6 | | | | 8 | **10** | |
| 6. Area – Safety: protecting devices. Protecting personal data and privacy. Protecting health and well-being. Protecting the environment. | 2 | | 2 | | | | 6 | **6** | |

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| 7. Area – Problem solving: solving technical problems. Identifying needs and technological responses. Creatively using digital technology. Identifying digital competence gaps. | 2 | | 2 | | | | 6 | **6** | |
| 8. Introduction to website design. | 2 | | 4 | | | | 2 | **4** | |
| 9. Preparation for the final project and presentation | | | | | | | | **24** | |
| 10. Presentation of the final project | | | 2 | | | | | | |
| **Total** | **18** | | **30** | | | | **48** | **82** | |

| Assessment strategy | Weight % | Deadline | Assessment criteria |
|---|---|---|---|
| Active and constructive participation in seminar activities and development of digital artifacts. | 70% | **Before examination session** | **The criteria for assessment of participation in the seminars are:**<br>Constructive participation in seminar activities (participating in group discussions, generating ideas, explaining concepts) (20 points).<br>**The criteria for assessment of created artifacts are as follows:**<br>**1. Content of created artifacts (30 points)**<br>**Relevance and clarity (10 points):** The content addresses the task's purpose and objectives and will be included in the final website and presentation. Information is accurate, up-to-date, and relevant to the target audience. The content is presented in a clear and concise manner. Key messages are easily understood by the audience.<br>**Organization (10 points):** Information is well-organized and follows a logical flow.<br>**Depth of Information (10 points):** The content provides sufficient depth and detail to support the key points. Relevant examples, data, or evidence are included where necessary.<br>**2. Design and Layout (20 points)**<br>**Visual Appeal (5 points):** The website and presentation are visually appealing. Consistent color schemes, fonts, and imagery enhance overall aesthetics.<br>**Navigation and consistency (10 points):** Website navigation is intuitive and user-friendly. Design elements are consistent across the website and well-structured with clear transitions.<br>**Innovation (5 points):** Demonstrates creativity and innovation in design choices. Utilizes visuals and multimedia elements effectively. |
| Oral presentation of the final project | 30% | Examination session | **The criteria for assessment of the final artifacts and presentation are as follows:**<br>**1. Content, Functionality, and Technical Aspects (20 points)**<br>**Website Functionality (20 points):** All links, buttons, and interactive elements function as intended. Audio and visual elements are clear and of high quality. No technical issues interrupt the flow of the presentation.<br>**2. Presentation Skills (5 points)**<br>**Delivery and Engagement (5 points):** The presenter speaks clearly and audibly. Maintains a confident and engaging tone throughout the presentation. The presenter engages the audience effectively (e.g., |

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| | | | through questions and interactive elements). Maintains eye contact and uses body language appropriately.<br><br>**3. Overall Impression (5 points)**<br><br>**Professionalism and overall Impact (5 points):** The website and presentation demonstrate high professionalism. Attention to detail is evident in all aspects. The website and presentation leave a positive and memorable impact on the audience. Effectively conveys the intended message. |

| Author (-s) | Publishing year | Title | Issue of a periodical or volume of a publication | Publishing house or web link |
|---|---|---|---|---|
| **Required reading** | | | | |
| VUORIKARI Riina; KLUZER Stefano; PUNIE Yves | 2022 | DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes | | https://joint-research-centre.ec.europa.eu/digcomp/digcomp-framework_en |
| Punie, Y., editor(s), Redecker, C. | 2017 | European Framework for the Digital Competence of Educators: DigCompEdu | | https://publications.jrc.ec.europa.eu/repository/handle/JRC107466 |
| Council of the EU | 2023 | A digital future for Europe | | https://www.consilium.europa.eu/en/policies/a-digital-future-for-europe/#your%20life%20online |
| Council of the EU | 2023 | Your life online: How is the EU making it easier and safer for you? | | https://www.consilium.europa.eu/en/your-online-life-and-the-eu/ |
| European Commission | 2023 | Data protection in the EU | | https://commission.europa.eu/law/law-topic/data-protection/data-protection-eu_en |
| Council of the EU | 2023 | Council Recommendation on the key enabling factors for successful digital education and training | | https://data.consilium.europa.eu/doc/document/ST-15741-2023-INIT/en/pdf |
| Council of the EU | 2023 | Council Recommendation on improving the provision of digital skills and competences in education and training | | https://data.consilium.europa.eu/doc/document/ST-15740-2023-INIT/en/pdf |
| OECD | 2025 | Preparing teachers for digital education | | https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/05/preparing-teachers-for-digital-education_13a76e57/af442d7a-en.pdf |
| Dolezal, D.; Motschnig, R.; Ambros, R | 2025 | Pre-Service Teachers' Digital Competence: A Call for Action | Education Sciences. 2025; 15(2):160. | https://doi.org/10.3390/educsci15020160 |
| UNESCO | 2025 | AI competency framework for teachers | | https://www.unesco.org/en/articles/ai-competency-framework-teachers |
| **Recommended reading** | | | | |
| ArIN | 2023 | Educational Programme in AI Literacy | | https://www.arin-project.eu/educational-programme-in-ai-literacy/ |

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| etwinning | 2022 | 21 Digital Competences for 21st Century | | https://etwinningonline.eba.gov.tr/lesson/introduction-8/ |
| Ng, D. T. K., Leung, J. K. L., Su, J., Ng, R. C. W., & Chu, S. K. W. | 2023 | Teachers' AI digital competencies and twenty-first century skills in the post-pandemic world | 71(1), 137-161 | Educational technology research and development. https://link.springer.com/article/10.1007/s11423-023-10203-6 |
| Santana, M., & Díaz-Fernández, M. | 2023 | Competencies for the artificial intelligence age: visualisation of the state of the art and future perspectives | 17(6), 1971-2004. | Review of Managerial Science https://link.springer.com/article/10.1007/s11846-022-00613-w |
| Benvenuti, M., Cangelosi, A., Weinberger, A., Mazzoni, E., Benassi, M., Barbaresi, M., & Orsoni, M. | 2023 | Artificial intelligence and human behavioral development: A perspective on new skills and competences acquisition for the educational context | 148, 107903 | Computers in Human Behavior. https://www.sciencedirect.com/science/article/pii/S0747563223002546 |

***NOTE:*** *Including Open Educational Resources in the reading list is recommended*