Introduction: "DigKom@OHM" –
Qualification Program to Promote Students' Digital Competencies in Higher Education

Nuremberg Institute of Technology
Nuremberg, Bavaria, Germany

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www.th-nuernberg.de/digkom

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1. Introduction of the University

The Nuremberg Institute of Technology – Georg Simon Ohm (short: OHM)…

- is a University of Applied Sciences and, with around 13,000 students, one of the largest of its kind in Germany.

- offers application-oriented teaching, enabling students to apply scientific methods and independently transfer creative approaches into professional practice.

- is one of the most research-intensive universities of applied sciences in Bavaria and has a strong impact on the Nuremberg Metropolitan Region, Bavaria, and beyond.

- maintains more than 160 university partnerships worldwide.

- consists of 13 faculties and 1 Institute for Continuing Education, offering a total of 75 degree programs (across all degree types).

Faculties and Institutions at OHM

- Applied Chemistry
- Applied Mathematics, Physics and General Sciences
- Architecture
- Civil Engineering
- Business Administration
- Design
- Electrical Engineering, Precision Engineering and Information Technology

- Computer Science
- Mechanical Engineering and Building Services Engineering
- Social Sciences
- Process Engineering
- Materials Engineering
- Nuremberg School of Health
- OHM Professional School (Institute for Continuing Education)

Website: https://www.th-nuernberg.de/

2.1 Overview of the Program

- **DigKom@OHM** is the abbreviation for the specialized qualification program aimed at promoting digital competencies at OHM.

- **Credential**: University Certificate in Digital Competencies

- **Institutional Affiliation**: DigKom@OHM is based at the Center *Teaching and learning* – the contact point for university didactics and cross-disciplinary key competencies at OHM.

- **Implementation**: The program has been in place since 2018. The core concept of DigKom is based on the *European Digital Competence Framework for Citizens*.

- **Participation**: Voluntary and free of charge for students during their studies.

- **Proficiency Levels**: Foundation, Intermediate, and Advanced

- **Partner**: Companies and experts from industry

- **Target Group**:
  The program is open to students from all disciplines at OHM.

2.2 Objectives and Target Group

- **Goal 1: Providing Insights into Current Topics and Trends in Various Fields of Digital Competencies**
Students experiment with technologies and techniques, particularly in areas such as information retrieval, analysis and evaluation, data security and privacy, artificial intelligence (AI), digital communication and collaboration, and digital content creation.

- **Goal 2: Promoting Students' Self-Directed Learning Skills in the Digital Age with a Focus on Lifelong Learning**
The program encourages participants to identify their own knowledge gaps and areas of interest related to their studies or future professions. Students are encouraged to explore new digital tools and suitable online learning resources independently and to document their insights in the form of lessons learned and online learning portfolios.

- **Goal 3: Fostering Self-Reflection and Competency Level Assessment**
DigKom offers students opportunities for self-reflection throughout various program modules: initially in workshops and courses, then through an external Online Self-Assessment Test (OSA), and finally in the program's concluding workshop. Students develop strategies to further strengthen their competencies and independently address any gaps.

2.3 Competency Model DigKom@OHM

The DigKom@OHM competency model was initially based on DigComp 2.1 and later adapted in 2022 in alignment with DigComp 2.2. Two additional sixth and seventh competency areas – Digital Mindset and Lifelong Learning in the Digital Age as well as AI – were added, as these categories are considered highly relevant from our perspective.
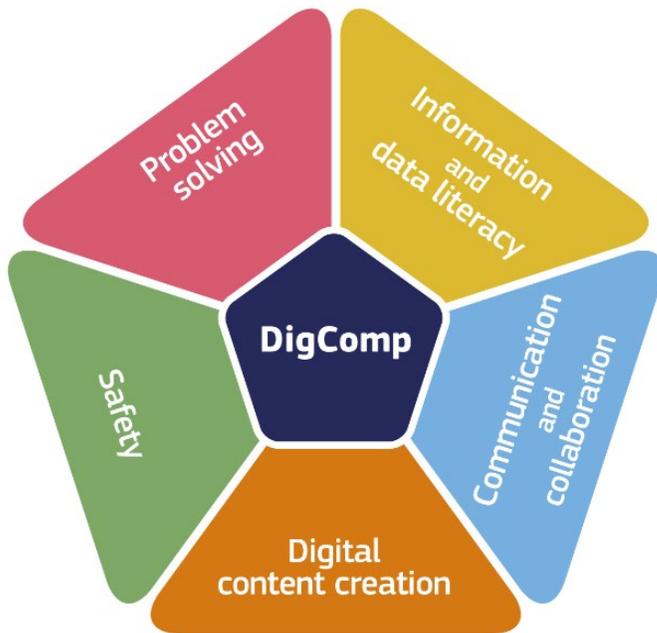

DigComp 2.2

The Digital Competence Framework for Citizens

5 Categories

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2 Categories:

AI

Digital Mindset &
Digital Learning

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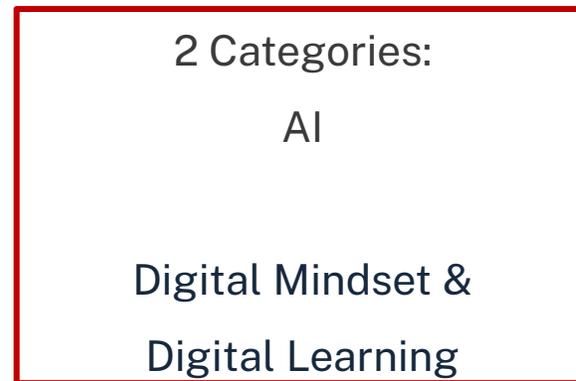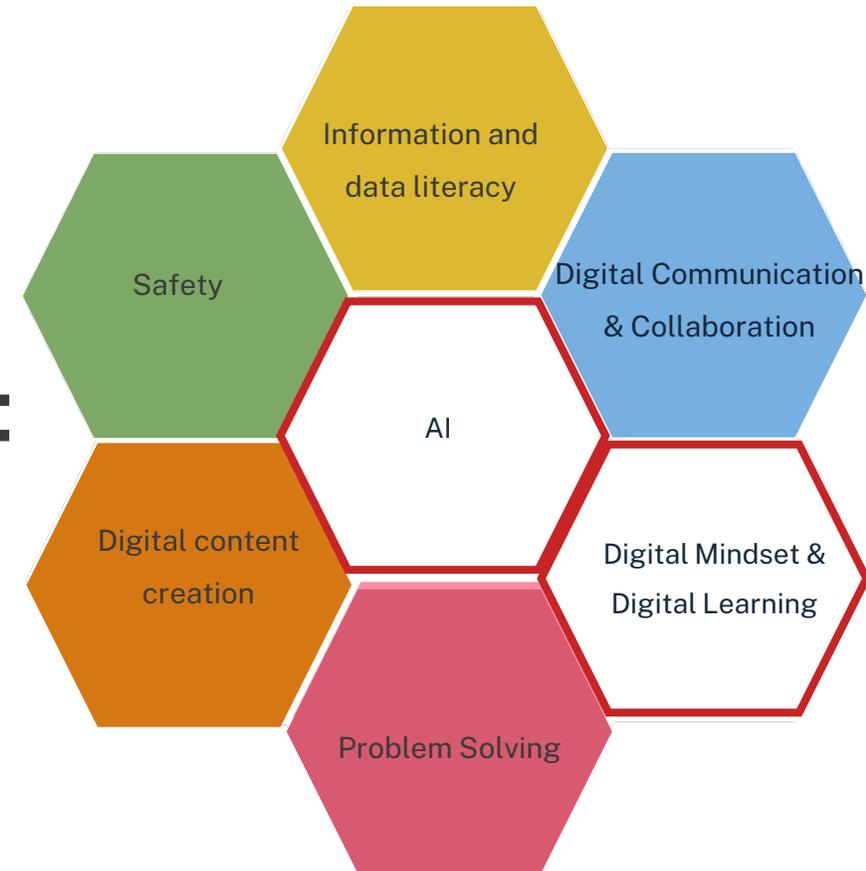
Competency Model of DigKom@OHM

7 Categories

2.4 Program Modules

Moduls are developed based on the DigKom@OHM competency model.
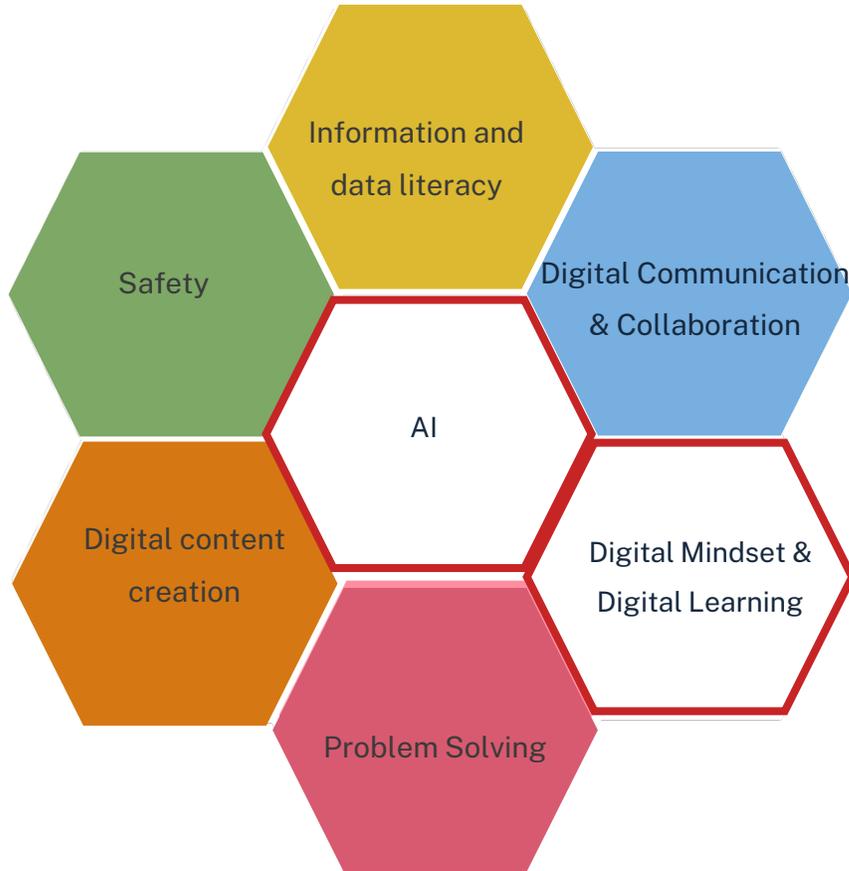
Competency Model of DigKom@OHM

7 Categories

Components of the program:

- Modul 1: Current Topics and Trends from Various Areas of Digital Competencies, incl. AI

- Modul 2: Lifelong Learning in the Digital Age and Digital Mindset

- Modul 3: Assessment of Own Competency Level and Final Workshop

2.5 Courses within the Programs

Learning offerings are in the form of workshops, seminars, and courses with ECTS credits.

Module 1: Current topics and trends from different areas of digital competence

Module 1 covers current topics and trends from various fields of digital competence. In order to complete the programme, at least one workshop or lecture from this module must be successfully completed.

The following offers are available as part of the programme:

- NEU_Workshop "AI as a Co-Creator in the Creation of Audiovisual Media" (*)
- Workshop "Beyond Screens & Digital Wellbeing" (*)
- Workshop "AI in Practice: Intensive Workshop on ChatGPT & Co – Functionality, Prompting & Coding" (*)
- Workshop "ChatGPT, Stable Diffusion and KI-Tools for text and image processing: potential and limits" (*)
- Workshop "Virtual and augmented reality for everyone: designing immersive applications in a practical way" (basic VR workshop) (*)
- Workshop "Creation of virtual rooms basics" (advanced VR workshop) (*)
- Learning Unit "Security on the net" (*)
- Workshop: "Industry 4.0 and Smart Factory" (*)
- Workshop: "Digital Canvas: Instruments for the creation und evaluation of digital business models" (*)
- Workshop: "Virtual Reality: Insight into the Virtual World" (*)
- Workshop: "Tableau-Basics: Data analytics and smart visualization" (*)
- Workshop: "Media Literacy: Media Impact and IT Security in Daily Work" (*)
- Workshop: "Media Literacy: Media Impact, Online Research, and Verification of Fake News" (*)
- Workshop: "Media Literacy: Practice and Theory in the Digital Age" (*)
- Workshop: "App Development: From the Idea to the Finished Android App" (*)

- Lecture: "Digital Ethics" (**)
- Lecture: "Digital Setup - Creation and Design of Websites" (**)
- Lecture: "Infographics - Storytelling with Data" (**)
- Lecture: "Data Analysis and Interactive Reporting with Excel and Power BI" (**)

Module 2: Lifelong learning and digital mindset

Module 2 includes workshops and lectures that strengthen your independent learning skills in the digital age and to gain an insight into the digital mindset. In addition, Module 2 offers the opportunity to develop your digital skills within practical application projects, for example, using digital tools to develop sustainable solutions.

In order to complete the programme, at least one workshop or lecture from Module 2 must be completed.

The following offers are available as part of the certificate programme:

- Workshop: "Knowledge Management with Obsidian" (*)
- Workshop "Agile learning in the context of companies" (*)
- Workshop: "WORK FROM ANYWHERE I How Can We Shape the "New Normal"?" (*)
- Workshop: ""#CommunityLearning - Learn to Achieve Your Goals by Learning and Networking" (*)
- Lecture: "Studying, Self-organization, and Motivation 4.0" (**)
- Lecture/Workshop: "Using OER and MOOCs for knowledge acquisition and independent continuing education" (**)/(*)

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2.5 Courses within the Programs

The following AI offerings (listed in chronological order) are continuously developed and adapted, based on the students' AI competency levels:

- Level 1: Basic – No or very limited prior knowledge, first encounter with AI tools.
- Level 2: Initial Experience – Some prior knowledge, AI tools have already been tried out.
- Level 3: Advanced – Solid prior knowledge, regular use of AI tools.

Each offering focuses on a specific thematic area.

AI Tools for Beginners

ONLINE

Level 1

Literature Research with AI Tools

IN PERSON

Level 1

Beyond Screens:
Understanding Media Worlds, Grasping AI, Seeing Through Deepfakes

IN PERSON

Level 1

ChatGPT, Stable Diffusion and AI Tools
for text and image processing: potential and limits

ONLINE

Level 2

AI in Practice
Intensive Workshop on ChatGPT & Co – Functionality, Prompting & Coding

IN PERSON

Level 2

When Is a Text 'My Text'?
Opinions and Facts on Output Quality, Plagiarism, and Prompting Techniques

NEU

IN PERSON

Level 2

AI as a Co-Creator in the Creation of Audiovisual Media

NEU

IN PERSON

Level 2/3

Data Analytics with AI

IN PERSON

Level 3

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If you have any questions, feel free to contact me!

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