O4

CT for primary education prospective teachers:
specific features, approaches and practical solutions

This Module integrates conceptual development with specific practical elements in education for prospective primary school teachers. The teaching approach implements the idea of students designing and testing lessons for CT in primary school classrooms as a research and experience-based activity. It includes a detailed reflection of the planning and implementation process, using the example of educational robots.

The module aims at learning outcomes in the following three areas:

- Conceptual competences
  - The students understand the concept CT, its connection to learning goals and curricula in topics and subjects for primary school
  - The students know several opportunities and limitations of CT
- Pedagogical competences
  - The students become empowered for effective design, development and implementation of approaches and tools for integrating CT into the classroom including moderate constructivist teaching and learning theories
  - The students become empowered for a professional and pedagogic reflection of conducted classes
- Self-efficacy and motivational competences
  - The students are motivated to use digital possibilities for future projects through successful practical experiences with CT approaches and digitalization in the primary school

The module focuses on **T**echnology in S**T**EAM, with a strong emphasis on the role of humans in coping with (information) technology and the digital world. Furthermore, several aspects of CT with focus on the reciprocal interaction between humans and computational systems are discussed, to enable future primary school teachers to prepare their students for the digital challenges of everyday life.