Willkommen, Welcome, Bienvenido, أهلاً وسهلاً, ברוך הבא, स्वागत है, 欢迎, ⋯ :-)

Bonvenon[1]. You somehow found your way to this website — maintained by the Creative Technologies Lab's team around Prof. Felix Hardmood Beck and Leonie Winkelmann at FH Münster in the beautiful Münsterland region of North-Rhine Westphalia. Not only is NRW home to scenic landscapes and excellent coffee, it also happens to be one of Europe's strongest economic powerhouses, with 18 million inhabitants, over 700,000 SMEs, and more universities, research hubs, and incubators than one could reasonably visit in a week. Happy reading!

About us

The Creative Technologies Lab is part of the department of Electrical Engineering and Computer Science (ETI). We are based at the Technology-Campus in the city of Steinfurt – a vibrant campus that lays the foundation for the department's mission to excel as a leading academic institution, equipped with state-of-the-art facilities and fostering a dynamic environment for innovative teaching, cutting-edge research, and practical applications in computer science, electrical engineering, and information technology. The department's dedicated faculty, consisting of industry experts and experienced academics, ensures hands-on learning through collaborative projects, industry internships, and practical training. This approach prepares students for diverse careers while encouraging active participation in research, international exchange programs, and interdisciplinary initiatives.

The Creative Technology Lab embodies and actively supports the department's mission by serving as a vivid hub for interdisciplinary collaboration, fostering innovation at the intersection of design, technology, and engineering. Through its unique and welcoming work-culture, an open-door policy, and its available tools and infrastructure, the lab enables students and researchers to explore creative solutions to contemporary challenges applying all kinds of technologies. By integrating research-driven teaching, applied projects, and close collaboration with industry, the lab strengthens the department's commitment to practical relevance, academic excellence, and innovation. In doing so, it not only prepares students for future-oriented careers but also contributes to the advancement of knowledge and technology in the wider Münsterland region, and in alignment with FH Münster's strategic goals [2].

What do we do in the lab?

We learn, teach, and work in the lab. We explore the intersection of design, technology, and creativity by developing innovative applications and systems in new media. Through interdisciplinary and international collaborations among students, faculty, researchers, and industry partners, we merge technological approaches with artistic perspectives to create groundbreaking concepts, products, and services. Our work is guided by a commitment to addressing real-world challenges, reimagining the potential of design and technology, and advancing media applications to drive meaningful transformation. By fostering a culture of experimentation, we embrace creativity, calculated risks, and purposeful innovation that responds to societal needs.

What can students expect?

The lab is small, but cool! You will enter a hands-on environment where ideas are not only realized but also critically examined and refined. The lab is a research-driven space where creativity is intentionally purposeful and innovation is grounded in rigor. You will have the opportunity to develop solutions and sharpen your skills in fields such as human-computer interaction, media systems, and interactive design. Projects range from designing interactive installations for museums to creating IoT-enabled devices for sustainable living or augmented reality (AR) applications for preserving cultural heritage. Here, experimentation and failure are embraced as valuable parts of the learning process, equipping students with practical experience to contribute

to transformative projects and *positive futures* that address tangible challenges.

We have been organizing the DTI – Design, Technology & Innovation Summer School since 2022. The programme takes place every summer and brings together students and lecturers from different countries and disciplines to work on interdisciplinary projects at the intersection of design, technology and innovation.

Since the winter semester 2026/27, the Bachelor's degree program Creative Technologies has been offered. Check out the semester overview in English, in in German, in in Malay.

Update: Adobe Creative Cloud (Photoshop, Illustrator, Indesign, …) has been installed in D215, D219, D220. Please remember to first register in myFH-Portal using your FHM credentials.

How do we work?

We are committed to fostering a welcoming community. Our teaching approach focuses on preparing students for the complexities of an interconnected world by fostering critical thinking, problem-solving abilities, and creativity – heavily influenced by the studio classroom we are working in. Courses taught at the lab combine design, media, and technology, with a strong emphasis on human-centered design, hands-on prototyping and experiential learning. Across all of these activities, we are committed to working with the Seven Rs of sustainable practice in mind – rethinking, refusing, reducing, reusing, repurposing, recycling and, where appropriate, letting things rot (from time to time even our ideas…) – and to embedding these principles into both design decisions and technical implementations. Students are guided through every stage of project development – from initial concepts and prototyping to production and management – ensuring a balance between theoretical understanding and practical application.

Innovation in the lab follows two complementary pathways: On the one hand, we develop and apply new technologies to solve specific problems; on the other hand, we explore open-ended ideas without predefined purposes, allowing for unexpected breakthroughs, or sometimes also no breakthroughs at all. 😉 Sometimes we develop cool stuff but also do not know what it could be used for. This dual approach enables interdisciplinary exploration by dissolving the boundaries between design, technology, art, and science.

This interdisciplinary and practice-based approach also shapes how we understand research and its outcomes. Research in Creative Technologies does not necessarily result only in traditional academic publications; knowledge can also emerge through the development, testing, and critical reflection of prototypes, software, installations, exhibitions, datasets, experimental systems, and other artifacts. We therefore consider Non-Traditional Research Outputs (NTROs) an important framework for documenting, reflecting on, and making such practice-based and artifact-driven research visible, citable, and academically accessible.

Whether addressing pressing issues, developing concrete applications, or uncovering unforeseen possibilities through experimentation, our process equips students and researchers with the skills and mindset needed to drive innovation and tackle the challenges of the future.

Check out the following essays on the prediction of how a typical workday of several Creative Technologista will look like in the year 2035. Read about Kim, or Konrad. [3)]



Creative Technologies | BA Studienverlaufsplan

1. Semester Wi-Se

- **Design & Innovation** — Universelle Gestaltungsprinzipien — CP: 10
- **Grundlagen IXD** — Grundlagen Digitaler Medien — CP: 5
- **Medientechnik & Medienformate** — Grundlagen digitaler Audio-, Video- und Bildsysteme — Gastdozent Blockseminar — CP: 5
- **Coding Essentials** — Einführung in die Programmierung — CP: 5
- **Grundlagen der BWL** — Betriebswirtschaftliche Grundlagen — CP: 5

2. Semester So-Se

- **Make!** — Vom Entwurf zur Fertigung — Gastdozent Blockseminar — CP: 5
- **Making Things Talk** — Einführung in Physical Computing — CP: 5
- **Grundlagen UI** — Gestaltung von Benutzeroberflächen unter Usability Aspekten — CP: 5
- **Vectors, Motion & Models** — Mathe für Medien Systeme — CP: 5
- **Computational Thinking** — Grundlegende Konzepte der Informatik — CP: 5
- **English for Science and Engineering** — Fachkommunikation in Studium und Beruf — CP: 5

3. Semester Wi-Se

- **Creative Technologies Projekt** — Diverse Projekte — CP: 10
- **Making Things Move** — Bewegung, Aktorik und physische Interaktion — CP: 5
- **Applied AI** — Angewandte Künstliche Intelligenz (gleicher Kurs Dig. Eng.) — CP: 5
- **Einführung in die Webentwicklung** — Struktur und Interaktion im Web — CP: 5
- **Computergrafik** — … — CP: 5

4 Semester So-Se

- **Creative Technologies Projekt** — Diverse Projekte — CP: 10
- **Computational Design** — Generative Gestaltung — CP: 5
- **Wahlmodul** — freie Wahl gesamter Fächerkatalog der ETI Wahlmodule — CP: 5
- **Angewandte Webentwicklung** — Frameworks und Systeme in modernen Webanwendungen — CP: 5
- **Mensch-Computer Interaktion** — … — CP: 5

5 Semester Wi-Se

- **Creative Technologies Projekt** — Diverse Projekte — CP: 10
- **Portfolio** — Reflexion, Dokumentation und Präsentation von Projekten — CP: 5
- **Rechnergestützter Schaltungsentwurf** — Analog Digital Circuit Design — CP: 5
- **Wahlmodul** — freie Wahl gesamter Fächerkatalog der ETI Wahlmodule — CP: 5
- **Software Engineering** — … — CP: 5

6. Semester So-Se

- **Praxis-, Forschung- oder Auslandssemester** — (auch möglich: selbst-initiiertes Projekt) — CP: 15
- **BA-Arbeit** — incl. Kolloquium — CP: 15

Design-basierte Fächer · Informatik-basierte Fächer · Elektrotechnik-basierte Fächer · Projekt-basierte Fächer · Theorie-basierte Fächer



STEM to STEAM

The lab embraces the shift from STEM to STEAM – an educational and research approach that integrates the Arts into the traditional fields of Science, Technology, Engineering, and Mathematics. By including artistic and design-based perspectives, STEAM promotes a more holistic understanding of complex problems, encourages creative experimentation, and supports inclusive, interdisciplinary innovation. This mindset aligns with the lab's mission to explore new forms of knowledge production that combine technical precision with aesthetic sensitivity and societal relevance. As John Maeda puts it, "*STEM subjects alone will not lead to the kind of breathtaking innovation the 21st century demands. Innovation happens when convergent thinkers [...] combine forces with divergent thinkers – those who professionally wander, who are comfortable being uncomfortable, and who look for what is real.*"[4] This integration of disciplines reflects our belief that meaningful innovation often emerges where logic and creativity intersect, where storytelling enhances science, and where imagination becomes a driver of progress. [5)6)7)8)]

Read also a longer version of this paragraph in German: MINT wird MINDT, and this article on a broader understanding of knowledge production: Non-Traditional Research Outputs (NTROs), which recognizes research outcomes beyond conventional academic publications.





1) https://en.wikipedia.org/wiki/Esperanto

2) HEP Hochschulentwicklungsplan 2020–2025

3) Whenever there is more time Felix might also write about Aylin, Mara, Jonas, Samira, Leonie, and Malik...

4)
Maeda, John. “STEM + Art = STEAM.” The STEAM Journal, vol. 1, no. 1, 2013. https://scholarship.claremont.edu/steam/vol1/iss1/34
5)
OECD (2020): OECD Learning Compass 2030 – A Series of Concept Notes
6)
World Economic Forum (2023): The Future of Jobs Report 2023
7)
Buchanan, R. (1992): Wicked Problems in Design Thinking. In: *Design Issues*, 8(2), 5–21. https://doi.org/10.2307/1511637
8)
Brown, T. (2009): *Change by Design: How Design Thinking Creates New Alternatives for Business and Society*. Harvard Business Press

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