UNIVERSITY OF APPLIED SCIENCES UPPER AUSTRIA
OBERÖSTERREICH

Campus Hagenberg

IM

MSc

# Interactive Media

Full-time,
English Language

## Expertise in Interactive Technologies, Computer Games and Online Media

As digital technologies, artificial intelligence, and media continue to permeate more aspects of our everyday lives, the need for intuitive and natural interfaces with integrated, intelligent functionality is becoming even greater. Our Interactive Media program focuses on preparing graduates for challenging roles in the development of innovative technologies and the production of complex projects in the ever-evolving media industry.

The graduate program features both a broad selection of specialised courses in the field of Interactive Media and a substantial project-based component that enables students to develop their own individual focus. In addition to providing a solid industry-oriented education, the program seeks to hone students' communication skills and refine their systematic approaches to problem-solving and engineering for interaction.

### Career Profile

Graduates of Interactive Media have acquired both the conceptual and design skills necessary for developing innovative media projects and the technical expertise to contribute to their subsequent implementation. Their specific qualifications make them sought-after experts in a variety of fields, including game development, generative AI applications, front-end and full-stack web development, multimedia systems, UX design and development, mixed reality applications, cooperative workflow solutions, spatial computing, and information visualization. And often, our graduates serve as catalysts for new digital strategies and technologies in other contexts, such as the automotive industry.

### Study Focus

The Interactive Media program is built around an essential core curriculum with four interlocking domains that can be augmented by a selection of elective courses:

- **Interactive Technologies:** Human-computer interaction, physical prototyping, UX design, computer vision, machine learning, collaborative work environments, mixed reality, pervasive computing
- **Computer Games:** Game development, game engine architecture, real-time graphics, physics simulation, artificial intelligence, multiplayer and online games, audio systems and processing
- **Online Media:** Web application architecture, full-stack web development, LLM-powered applications and web intelligence, natural-language processing and chatbots, big data
- **Data Journalism:** foundations of editorial workflows, computational journalism, critical data practice, analytics/dashboards

**Degree**
→ Master of Science in Engineering (MSc)

**Duration**
→ 4 semesters (120 ECTS)

**Annual Intake**
→ 24

**Admission Requirements**
→ Completed Bachelor's degree or similar qualification in a relevant subject, with a minimum of 60 ECTS in IT-related subjects
→ sound knowledge of English.

**Application**
→ online – details & deadlines on fh-ooe.at/application

**Admission Procedure**
→ by interview

**Language of Instruction**
→ English

**Semester Abroad**
→ Flexible curriculum allows students to study at one of our partner universities.

**Tuition Fees**
→ EU/EEA citizens: 363.36 EUR per semester (plus Austrian Student Union fee).
→ Citizens from non-EU/EEA countries: 726.72 EUR per semester (plus Austrian Student Union fee).
→ Scholarships available.

**fh-ooe.at/en/im**

# Curriculum

| Core and elective courses | ECTS / semester | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| **→ Foundations** | | | | | |
| Artificial Intelligence | | 5 | | | |
| Human-Computer Interaction | | 5 | | | |
| Information Visualization | | | 5 | | |
| Software Design Methods | | | 5 | | |
| Scientific Methods and Communication | | | | 5 | |
| **→ Interactive Technologies** | | | | | |
| Real Time Graphics[1] | | 5 | | | |
| Visual Computing[1] | | | 5 | | |
| User Interfaces[1] | | | | 5 | |
| Pervasive Computing[1] | | | | | 5 |
| Special Topic in Interactive Media[1] | | 5 | | | |
| **→ Game Development** | | | | | |
| Game Development[1] | | 5 | | | |
| Real Time Engineering[1] | | | 5 | | |
| Spatial Computing[1] | | | | 5 | |
| Game Spaces[1] | | | | | 5 |
| **→ Online Media** | | | | | |
| Hypermedia UX Engineering[1] | | 5 | | | |
| Hypermedia Frameworks[1] | | | 5 | | |
| Intelligent Media[1] | | | | 5 | |
| Big Data[1] | | | | | 5 |
| Special Topic in Interactive Media[1] | | | | | 5 |
| **→ Data Journalism** | | | | | |
| Data-intensive Journalism Foundations[1] | | | 5 | | |
| Data-intensive Journalism Practice[1] | | | | 5 | |
| **→ Projects** | | | | | |
| Project | | 10 | 10 | | |
| Thesis Project | | | | 10 | |
| **→ Master's Thesis** | | | | | |
| Master's Thesis | | | | 5 | 19 |
| Master's Examination | | | | | 1 |

**Interactive Media technologies are in a constant state of flux. Our graduates meet the demands of these developments by designing and implementing new functionality and enhancing the overall user experience. The ultimate goal of our program is to provide students with relevant design approaches and hands-on experience that will guide them in their development of the interactive systems of the future.**

Rimbert Rudisch-Sommer, Program Coordinator

[1] Elective course, offered subject to a sufficient number of participants.

ECTS: European Credit Transfer System
Note: Students have to achieve a minimum of 120 ECTS credits in total (30 ECTS credits per semester).
The main language of instruction in this degree program is English, thus a sound knowledge of the language is required.

### Practical Experience and Research

Project experiences can be explored both in cooperation with leading industry partners or in our department research group "Digital Media Lab". The research activities span different areas:

Projects in the field of Human-Computer Interaction cover a wide spectrum from intelligent user interfaces, spatial computing, and mixed reality to material-based design and tangible user interfaces, while the field of Visual Computing explores innovative approaches in visual analysis, deep learning, and object detection.

The lab also investigates new and natural forms of playful interaction for various contexts, including co-located games, multiuser interaction in mixed reality, hybrid reality games, serious games and expanded animation.

In addition, the lab has a penchant for generative AI and large language models, spearheading research and development in this rapidly evolving field. In combination with multimedia web applications and the analysis and visualization of media data this again forms the basis for successful research projects.

### Study Abroad

The Interactive Media program is taught in English and its international environment equips students with the language and intercultural skills necessary to succeed in the global media industry. A semester abroad can additionally be spent at one of our partner universities in countries such as Italy, Denmark, UK, Sweden, and Norway.

### Good to Know

→ Our Digital Media Lab develops games that motivate players to improve their nutrition, think more sustainably and exercise social courage. Many of our graduates are valued employees at leading technology companies such as Microsoft, Google, and Dynatrace.

## Contact

**Head of Studies**
→ Prof. Mag. DI Dr. Andreas Stöckl
**Academic Coordinator**
→ Prof. DI Rimbert Rudisch-Sommer

University of Applied Sciences Upper Austria
School of Informatics, Communications and Media
Softwarepark 11, 4232 Hagenberg/Austria
+43 5 0804 22104 I im@fh-hagenberg.at
fh-ooe.at/en/im

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