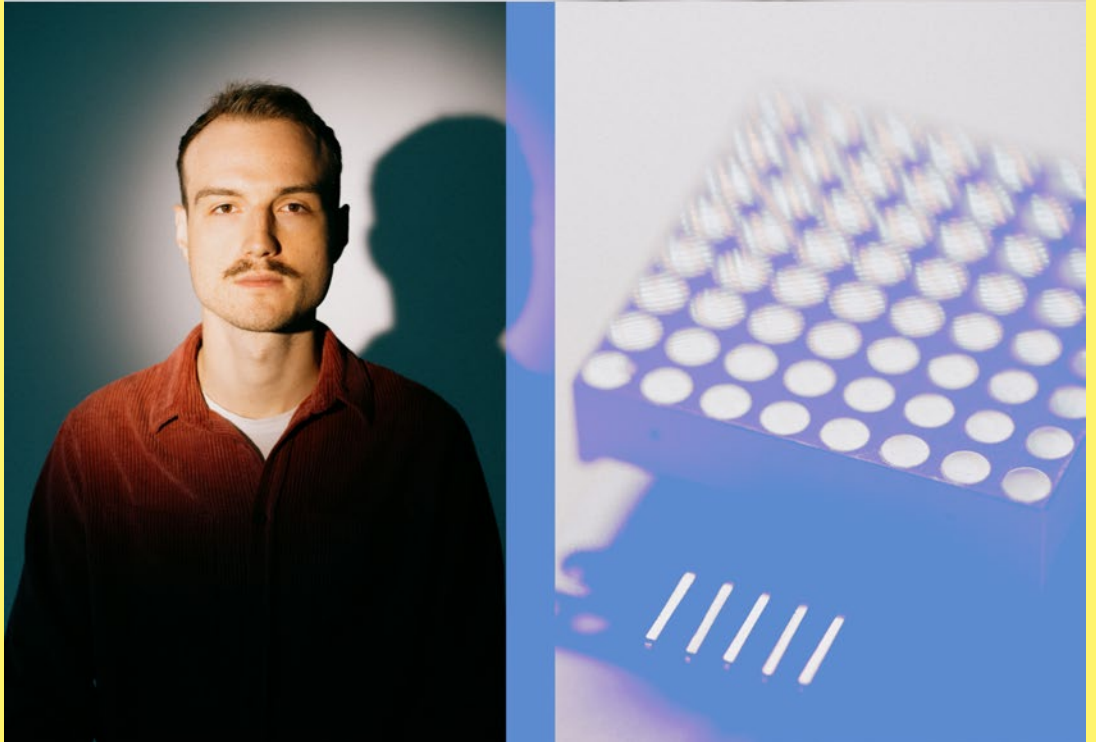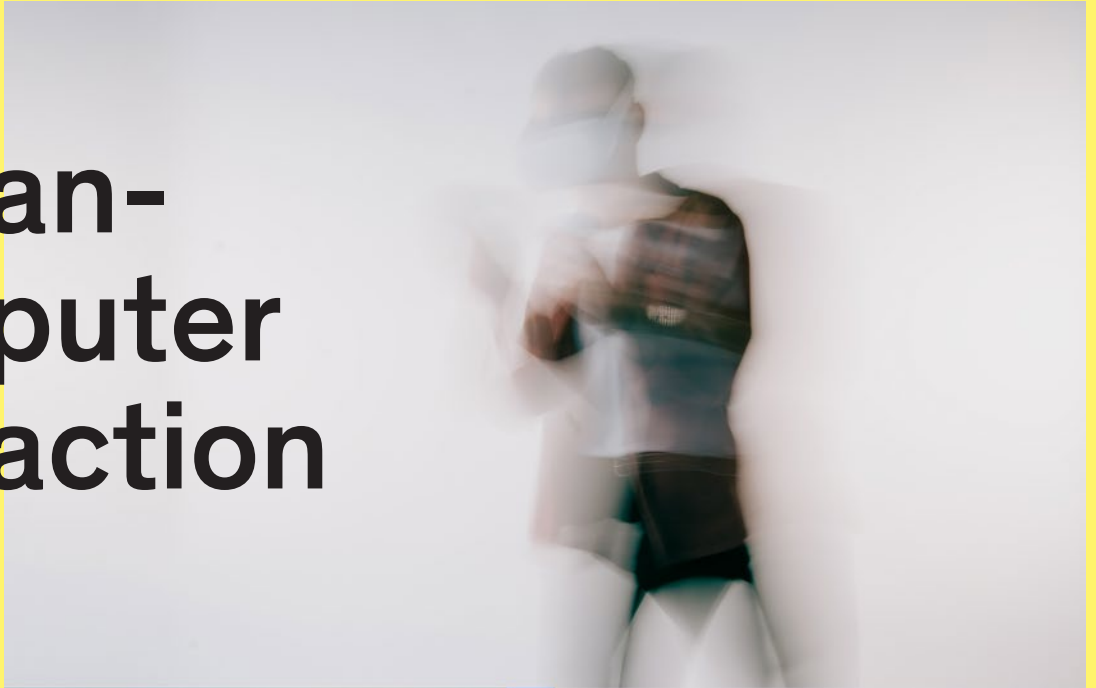# Human-Computer Interaction

Master

competent
relevant
sustainable

Joint Master Programme

FH-Prof. Dr. Bernhard Maurer, MSc
Head of Degree Programme
Human-Computer Interaction

»A vital component of our programme is collaborating with industry partners to address real-world problems and challenges. Students engage in conceptualizing solutions for specific design problems, conveying their ideas through prototypes, and actively involving stakeholders in the design process. Through this approach, students not only gain practical experience but also cultivate valuable industry connections.«

The digital revolution is not just about technology and designing useful apps – it's about understanding humans and their needs in regard to the interaction with technology. Become an expert in the thriving field of Human-Computer Interaction and help shaping the way people interact with digital applications, products or services by designing better futures.

This interdisciplinary degree programme combines principles from computer science, design and psychology and is dedicated to understanding the evolving relationship between people and interactive systems. The programme prepares future experts to ideate, design, implement and evaluate novel interfaces and innovative forms of interaction that better respond to the needs of users. Topics include HCI theory, methodology and prototyping, human factors & user experience engineering, interaction design & digital innovation, contextual interfaces, HCI innovations & future technologies and their application in research and industry.

Overview

· Joint master programme of FH Salzburg and Paris Lodron University Salzburg
· Hands-on research and industry projects in the fields of, e.g. smart homes, IoT, autonomous vehicles, digital health, play, human-robot interaction and cooperative systems
· Wide range of elective courses meant for individual specialisation
· Optional internship in industry or academia

Career

Acquiring the degree in Human-Computer Interaction can open up many different career paths. Graduates enjoy excellent employment prospects and are highly sought after both in academia and industry, including IT & software, creative industries, product development as well as research and education. Professionals in HCI are needed in positions related to user experience, usability engineering, interaction design, human factors, user interface design, human-robot interaction and beyond. Typical job titles include HCI professional, product owner, UX designer, interaction designer, HCI researcher, design engineer UX & usability expert and digital innovation manager.

Students

The master's degree programme is designed for international graduates from fields such as human-computer interaction, computer science, design, media, communication studies, psychology, sociology and engineering. Preparation courses help students from diverse backgrounds to develop basic skills in programming, visual design and research methodology.

Learning content

Human-Computer Interaction is a large, cross-disciplinary and dynamic field. Professionals require an understanding of interactive systems, the needs of the people using them as well as the context in which the interaction is situated. The curriculum is designed to reflect that diversity and provides the theoretical grounding, practical knowledge, and hands-on experience for students to become technologically competent designers and design-minded engineers.

Students will learn:

· Fundamentals of HCI theory and methodology, paradigms and trends
· Theories of human behaviour and user-centred design methods
· Usability and experience engineering methods
· To analyse and specify the context of use in various fields of applications
· Methods of innovation management and design thinking
· To assess and use novel forms of interactive technologies, including mixed reality, multimodal interaction and tangible interfaces
· To design and develop interactive prototypes
· Advanced research methods
· Project and team management skills
· Ethical, legal and cultural factors

Contextual HCI

As technology evolves, Human-Computer Interaction is all about innovation and finding solutions to novel problems. Students can specialise in the research and development of interactive prototypes in application areas such as industrial settings, ambient assisted living, public spaces, smart mobility or virtual and augmented reality.
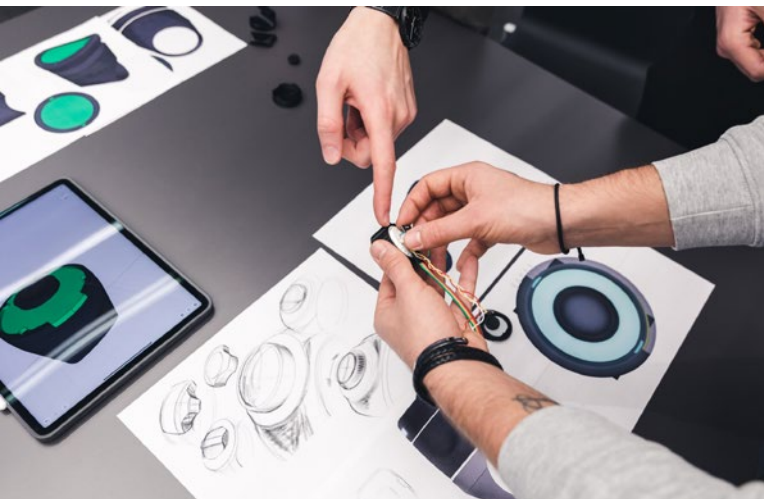
Research & Industry

The curriculum is based on a research and an industry pillar, including several courses targeting both areas. Students will undertake one research and one industry project under the supervision of academic staff members.
The research topic can range from purely theoretical studies to empirical user studies or practical design work, developing and evaluating experience prototypes of novel interaction techniques. Students will also take part in a practical project solving a real-world problem in cooperation with an industry partner, e.g. developing an interface for an interactive system and conducting an empirical study.

Elective Courses

Students can choose elective courses from each university with a total sum of 12 ECTS or gain industry experience as an intern. Lectures offered by Salzburg University of Applied Sciences include, e.g. Game Design, Recommender Systems, Mixed Reality Technologies, Data Analysis, Information Visualization, Predictive Analytics or Realtime Visualisation.
Paris Lodron University Salzburg provides lectures from different fields, such as Data Science and Big Data, Geoinformatics and Cognitive Psychology.

Curriculum

	Courses	Semester			
		1	**2**	**3**	**4**
	Introduction to HCI				
2	HCI Theory & Paradigms	2 (2)			
2	Foundations of HCI Methodologies	4 (2)			
1	Applied Prototyping Skills for HCI	6 (4)			
2	Human Factors & Design Principles	2 (2)			
2	Experience Engineering Methods	4 (2)			
2	Interaction Design	3 (2)			
1	Design Thinking for Digital Innovation	3 (2)			
	Contextual & Advanced HCI				
2	Contextual Analysis & Context Capturing		3 (2)		
2	Contextual Interaction Design		3 (2)		
1 2	Advanced Contextual Interfaces			3 (2)	
1	Complex Interactive Systems			3 (2)	
1	Interaction Approaches & Technologies		6 (4)		
2	Design of Innovative Interactions			3 (2)	
1 2	Impacts of Future Technologies			3 (2)	
1 2	Elective courses (SUAS, PLUS)		6 (4)	6 (4)	
	HCI in Research & Industry				
1 2	Research Trends in HCI		3 (2)		
1 2	Lecture Series: HCI-related Disciplines		3 (2)		
1 2	HCI Research Project		6 (2)		
1	User Experience in Practice			3 (2)	
2	Experience Leadership & Innovation Management			3 (2)	
1 2	HCI Industry Project			6 (2)	
	Ethics, Diversity & Society				
1	Ethics & Sustainability	1,5 (1)			
1	Diversity & Intercultural Aspects	1,5 (1)			
1	Societal & Legal Aspects in HCI	3 (2)			
	Master Thesis				
1 2	Master Thesis Seminar				2 (1)
1 2	Master Exam				3 (-)
1 2	Master Thesis				25 (-)
	ECTS (CHW)	30 (20)	30 (18)	30 (18)	30 (1)

Study Locations

1 **(SUAS) Salzburg University of Applied Sciences**
Urstein Süd 1, 5412 Puch / Salzburg, Austria

2 **(PLUS) Paris Lodron University Salzburg**
Jakob-Haringerstr. 8, 5020 Salzburg, Austria

Preparation Courses (before 1st Semester)
Basics of Programming, Quantitative and Qualitative
Research Methods, Basic Visual Design Skills: 1 (2)

ECTS: European Credit Transfer and Accumulation System
CHW: contact hours per week per semester
The curriculum shown is an overview.

Studying in Salzburg

The Salzburg University of Applied Sciences (SUAS) and the Paris Lodron University of Salzburg (PLUS) have joined forces to offer this international joint master programme. This programme will allow you to get to know two different academic cultures, meet people with different backgrounds and learn to communicate professionally in an international working environment. We offer an up-to-date curriculum, which we constantly adapt to the challenges of the economy and society. An experienced and qualified faculty drawn from both academia and industry guarantees a cutting-edge education and provides impetus for scientific and academic content. Combined with state-of-the-art equipment in our auditoriums and labs, this stimulating environment creates the optimal breeding ground for growing your knowledge.

Both of our locations – Urstein Campus, where the SUAS is situated and the Science City Itzling Campus of the PLUS – are situated in one of the most beautiful areas in the world. Whether you are an art and architecture buff, a music fan or a lover of the great outdoors, Salzburg combines historical heritage and modern lifestyle culture to offer something for everyone.

Urstein Campus: This campus is surrounded by greenery, next to the neighbouring medieval estate known as the »Meierei« (dairy). This modern building houses our central administrative offices and is where most of our degree programmes are taught. Trains from the S-Bahn station directly on campus will take you to Salzburg city centre in no time.

Science City Itzling: The Science City Itzling at the Techno-Z houses the PLUS HCI division with its research facilities and labs, other PLUS departments, tech companies and a residence hall for students. Salzburg city centre is reachable within 10 minutes by bus, allowing students to explore the marvellous Old Town of Salzburg, which is a World Heritage site. You can get to the main train and bus stations on foot or by bus within a few minutes.

The FH Salzburg Career Center supports students in planning their careers and entering the world of work. Students can benefit from exclusive free workshops on 'career planning' and a jobs and careers portal. www.fh-salzburg.ac.at/career-center

Sports & Nature: Our sports programme offers a wide range of courses and training sessions. As a student you can use the facilities of the University and County Sports Centre Salzburg/Rif. Alternatively, you can simply explore nature outside your front door; the options are unlimited. Salzburg's mountains and lakes are available in the closest proximity.

Living & studying: Students who would like to combine study with housing are welcome to check out the hall of residence of the Urstein Campus (www.studentenheim.at) or the Techno-Z Campus (www.techno-z.at). Information about grants, legal and practical issues is provided by www.oead.at.

Urstein Campus

PLUS HCI division, Science City Itzling Campus
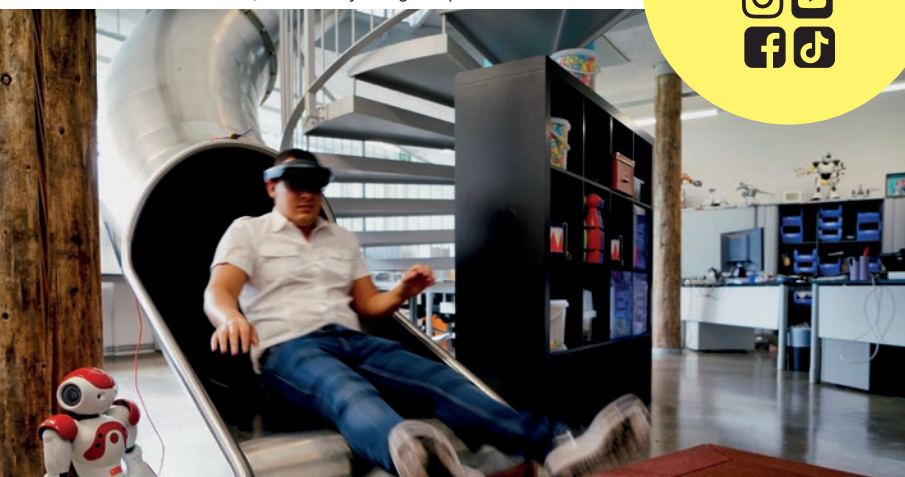
Get to
know us better:

Application &
Admission

Study mode: full-time
Length of study: 4 semesters
Degree awarded: Master of Science in Engineering (MSc)
Teaching language: English
Study places per year: 30
Location: Salzburg University of Applied Sciences and
Paris Lodron University Salzburg
Tuition and fees: at least 380 Euro / semester (EU students)
up to the double amount for other countries of origin; for preparation
courses organized by the University of Salzburg at least 50 Euro per course.

Prerequisites for admission

- Academic degree provided by relevant bachelor programmes in the fields
  of human-computer interaction, computer science, design, media,
  communication studies, psychology, sociology and engineering
- Adequate English proficiency

Application procedure

1. Online application following the link at
   www.fh-salzburg.ac.at/online-application
2. Send your CV, diplomas, a motivational letter and references
3. Admission interview

Further information can be found on:
hci-salzburg.at

Student projects
portfolio.fh-salzburg.ac.at

Contact

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