

Human- Computer Interaction*

Joint Master Programme



Technology
Health
Media

Joint Master Programme

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»As computing becomes more and more pervasive and digitalisation is transforming almost every aspect of daily life, Human-Computer Interaction has become one of the most dynamic and significant fields of innovation as well as a critical factor to the success or failure of any digital strategy«

The digital revolution is not about technology – it's about people. Become an expert in the thriving field of Human-Computer Interaction and help to shape the way people interact with digital applications, products or services.

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 Salzburg University
- Hands-on research and industry projects
- Up-and-coming fields of application such as smart homes, industry 4.0, autonomous vehicles, digital health
- Wide range of elective courses meant for individual specialisation
- Optional internship in industry

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 and 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, usability engineer, interaction designer, 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 the interactive systems, the capabilities of the people using them as well as the context in which the interaction occurs. 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 such as mixed reality, multimodal interaction and tangible interfaces
- To design and develop interface 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 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. creating an enterprise UX strategy, 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, Digital Ideation, Data Analysis, Information Visualization, Predictive Analytics, Realtime Visualisation or Interaction Design.

Paris Lodron University Salzburg provides lectures such as Data Science and Big Data, Geoinformatics and Cognitive Psychology.



The detailed course outline
can be found at:
hci-salzburg.at

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
Department of MultiMediaTechnology
Urstein Süd 1, 5412 Puch / Salzburg, Austria
- 2 (PLUS) Paris Lodron University Salzburg
Center for Human-Computer Interaction
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 economy and society. An experienced and qualified faculty drawn from both academia and industry guarantee a cutting-edge education and provide 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 Center for HCI with its research facilities and HCI labs, other PLUS departments, high-tech firms and a residence hall for students. Salzburg city centre is reachable within 10 minutes by bus, allowing students to explore the marvelous 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.

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 Science City Itzling Campus (studentenheim.techno-z.at). Information about grants, legal and practical issues is provided by www.oead.at.

Sports & Nature: Our sports departments offer diverse programmes of courses and trainings. 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. Salzburg's mountains and lakes are available in closest proximity.

Campus Urstein



Center for HCI, Campus Science City Itzling



Get to know us better:



Univ.-Prof. Dr. Manfred Tscheligi
Paris Lodron University Salzburg

»With our approach to Human-Computer Interaction, we provide all means and ingredients to define, design and develop optimised user experiences and innovative forms of interaction interfaces. We pave the way to future careers in academia or industry by providing a unique synergy of knowledge and insights.«

Application & Admission

Study mode: Fulltime

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

Requirements for enrolment

- 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/hci
2. Send your CV, diplomas, a motivational letter and references
3. Admission interview

Further information can be found on:

hci-salzburg.at

Contact

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