

MOBILE COMPUTING

MASTER'S DEGREE PROGRAMME, FULL-TIME 

In-depth technical know-how for all areas of mobile computing

All-pervasive mobile computational power is colonising all aspects of everyday life. Without it, many tasks we take for granted would be far more difficult or even impossible to carry out. These "intelligent" gadgets and applications function independently of any human agency – truly a miracle of modern life. Computer-based applications are shadowing a vast range of human activity and they can also be found in the broader infrastructure of our social lives: in automated control systems for homes and in smart cars that automatically adapt to traffic conditions and even to the fickle moods of the weather. Clearly, mobile communications have become the touchstone activity driving the most important and dynamic economic sectors worldwide in recent years. It is a global business that thrives on innovation and for which our students are thoroughly trained on our Mobile Computing degree programme.

Career Profile

In-depth technical knowledge in one or more specialist areas (see below) equips our students with the proactive qualities that underpin leadership/management positions, and can lead to high-flying careers at multinational corporations, small and medium enterprises as well as start-up ventures. There is hardly any area in which our graduates won't be able to thrive – be it conceptualisation of communication systems, development of mobile phone applications and interactive technologies, the design of a smart home environment or implementation of new mobile services.

Focus of Studies

All relevant areas of mobile computing are covered in this degree programme – software development, communications technologies and telecommunication engineering. It allows specialisation in several of the following areas:

- » Mobile Communication
- » Ubiquitous Computing
- » Mobile Infotainment
- » Mobile Games
- » Mobile Software Techniques
- » Automotive Computing
- » Ambient Assisted Living/Mobile Health
- » Entrepreneurship
- » Logistics

Study Abroad

Our flexible curriculum allows out-of-country studies. Destinations for our students have been Toronto, Melbourne and Helsinki, to name just a few places. This degree is taught entirely in English, thus also equipping our students with the language and intercultural skills necessary to succeed in the global IT industry.

Essential Information

Degree:

Master of Science in Engineering (MSc)

Duration: 4 semesters (120 ECTS)

Annual Intake: 15

Admission Requirements: Completed Master's or Bachelor's degree with IT strand worth a minimum of 60 ECTS, or a similar qualification; sound knowledge of English.

Application: Online or in writing by 30th June at the latest. Non-EU applicants: send your application by 31st March at the latest – the visa process can take up to 3 months.

www.fh-ooe.at/application

Admission Procedure: By interview and test.

Language of Instruction: English

Semester Abroad: Flexible curriculum allows out-of-country studies.

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.

www.fh-ooe.at/mc-ma

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Did you know that ...

... graduates of this degree programme are the founders of the successful sports app business Runtastic? And that other alumni developed the software for the world's first full-HD 360° action camera called V.360?



Projects and Research

From the start of their first semester, students begin to work on practical projects. Topics chosen for this work can reflect the student's personal interests. Our research focuses e.g. on novel interaction techniques, applications and services for mobile devices, user-friendly secure mobile environments, sports and health applications.

Mobile computing is superseding the desktop paradigm; the future really has arrived thanks to smartphones, tablets, wearables, apps and Co. It's a future where you can excel in your specialist field on our study programme – be it games, automotive, health or energy, etc.

Prof. Dr. Christoph Schaffer, *Head of Studies*

Curriculum

| List of courses | ECTS credits |
|------------------------------------------------------------------|--------------|
| Mobile communication | |
| Location-based and context-aware systems ^{1,3} | 5 |
| Mobile services ^{1,3} | 5 |
| Communication networks ^{2,4} | 5 |
| Contemporary concepts in mobile communication ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Modeling and simulation of mobile networks ³ | 5 |
| Short-range wireless communication ³ | 5 |
| Ubiquitous computing | |
| Location-based and context-aware systems ^{1,3} | 5 |
| Augmented reality ^{1,3} | 5 |
| Home and building automation ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Short-range wireless communication ³ | 5 |
| Mobile infotainment | |
| Location-based and context-aware systems ^{1,3} | 5 |
| Augmented reality ^{1,3} | 5 |
| Artificial intelligence ² | 5 |
| Computer vision ^{2,4} | 5 |
| Home and building automation ^{2,4} | 5 |
| Interactive technologies ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Short-range wireless communication ³ | 5 |
| Mobile software techniques | |
| Operating systems for mobile applications ^{1,3} | 5 |
| Software architectures and patterns ^{1,3} | 5 |
| Cross-platform development of mobile applications ^{2,4} | 5 |
| XML specialization ^{2,4} | 5 |
| Cloud computing ³ | 5 |
| Distributed real-time systems ³ | 5 |
| Automotive computing | |
| Location-based and context-aware systems ^{1,3} | 5 |
| Augmented reality ^{1,3} | 5 |
| Artificial intelligence ² | 5 |
| Computer vision ^{2,4} | 5 |
| Interactive technologies ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Automotive computing ³ | 5 |
| Short-range wireless communication ³ | 5 |
| Logistics | |
| Supply chain management ^{1,3} | 5 |
| Computer vision ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Short-range wireless communication ³ | 5 |
| Smart energy | |
| Location-based and context-aware systems ^{1,3} | 5 |
| Artificial intelligence ² | 5 |
| Home and building automation ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Short-range wireless communication ³ | 5 |

| List of courses | ECTS credits |
|-------------------------------------------------------------------|--------------|
| Ambient assisted living/mobile health | |
| Location-based and context-aware systems ^{1,3} | 5 |
| Augmented reality ^{1,3} | 5 |
| Artificial intelligence ² | 5 |
| Computer vision ^{2,4} | 5 |
| Home and building automation ^{2,4} | 5 |
| Interactive technologies ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Mobile health and sports ³ | 5 |
| Short-range wireless communication ³ | 5 |
| Mobile games | |
| Location-based and context-aware systems ^{1,3} | 5 |
| Augmented reality ^{1,3} | 5 |
| Mobile games ^{1,3} | 5 |
| Artificial intelligence ² | 5 |
| Computer vision ^{2,4} | 5 |
| Interactive technologies ^{2,4} | 5 |
| Sensors and networks ^{2,4} | 5 |
| Methodic/organization competences | |
| Systems engineering 1: UML and MDA ¹ | 5 |
| Systems engineering 2: real-time and mobility in UML ² | 5 |
| Systems engineering 3: metrics and testing ³ | 5 |
| Interdisciplinary qualifications | |
| Project 1: advanced project engineering ¹ | 5 |
| Project 2 ² | 5 |
| Project 3: Master's thesis project ³ | 3 |
| Mobile business | |
| Mobile business and marketing ⁴ | 5 |
| Scientific competences | |
| Scientific working ³ | 2 |
| Master's thesis ⁴ | 25 |

ECTS: European Credit Transfer and Accumulation System.
Note: Students have to achieve a minimum of 120 ECTS credits in total. Three focus areas have to be selected and, from each of these, three courses need to be chosen. In addition, three elective specialisation courses need to be selected.
^{1,2,3,4}: Numbers indicate the semester in which the course has to be taken.

Contact

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