



Master's Degree Program **Software Engineering**

General information

Requirements: Bachelor's degree; foundations of Computer and Software Engineering

Duration: 4 semesters (3 semesters coursework + 1 semester thesis)

ECTS credits: 120

Instruction language: English

Mission statement

To provide students with advanced knowledge in software engineering theory and practice, familiarize them with the evolution of the current techniques, develop research abilities and prepare them for successful careers as key contributors in software development and research projects.

Competencies and knowledge acquired

- advanced knowledge of the main topics in software engineering
- knowledge of current technologies and ability to apply them in project development
- critical, innovative and research abilities
- communication skills, interdisciplinary cooperation and team project management




Courses

The curriculum is structured into three course categories:

- breadth courses present core areas of software engineering knowledge at an advanced level (e.g., Algorithms, Programming languages, Databases, Distributed Systems)
- depth courses provide an engineering treatment of major topics related to software engineering (e.g., Component-based systems, Compiler design, Real-time systems, Advanced web programming)
- free electives permit an individual choice of specialization from a variety of subjects (e.g., machine learning, neural networks, parallel algorithms, pattern recognition, project management)

These courses are supplemented by a thread that develops research skills, starting with a course on Research topics in software engineering, and continuing with directed research leading up to the final Master's project developed over the entire 4th semester.

Why Software Engineering ?



Software has become a vital component of the infrastructure supporting our everyday life. Software systems are increasingly complex and thus more difficult to build, yet it is subject to increasingly strict standards of reliability, safety and security. At the same time, market pressure is increasing, development needs to be agile and software must be built to evolve. All of this, coupled with the need for leading-edge applications make today's software development an exciting technical challenge, and solid engineering principles are thus indispensable to being able to deliver quality projects on time. The MSE program focuses on imparting both the knowledge and the practical skills required for a productive long-term career.

Career opportunities

Timisoara has become a strong pole of the IT industry, with both large multinationals and locally-grown companies and scores of medium and small enterprises. Application domains are varied, including automotive, telecommunications, printing solutions, security, enterprise applications, and many more. Graduates of the program will be well-positioned to take up leading roles and manage project development teams, and the directed research performed during the program can be a starting point for doctoral research.



Contact

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