



Study in Switzerland



Educating the NEXT generation of digital leaders



Our graduate
programs



MSc in Computer Science, Software Engineering, and Leadership (CSSEL)

Drive innovation in a digitalized future

The complex, ambitious, and innovative software systems developed by successful technology companies require a particular kind of leader, possessing both in-depth technical knowledge and excellent leadership abilities. Some traditional master’s programs train software developers, and others train classical managers, but they often fail to deliver the digital-technology-savvy leaders that companies need for positions such as Product Manager, Chief Information Officer, Chief Security Officer, Chief Technology Officer, Chief Program Officer, Chief Security Officer, Chief Development Officer, Chief Product Officer, and others requiring competence on both sides.

The Master of Science in Computer Science, Software Engineering and Leadership (CSSEL) at Constructor Institute Schaffhausen addresses this urgent need. The research-oriented master’s program includes a wide range of courses and projects covering a broad spectrum of computer science and software engineering topics as well as essential management and leadership skills. To prepare students for the role of technology leaders in research and industry, the CSSEL master’s program provides a strong software engineering training covering both development and management, as well as core technical courses in three areas that lie at the heart of modern IT systems:

- Software engineering
- Cybersecurity
- Artificial intelligence



Courses are taught by experts in the field, including permanent Constructor faculty and lecturers from companies. By completing the master’s program, students acquire the core expertise of digital leaders, with a strong technological backbone, and essential management and leadership skills, making them ready for active leadership in the digital technology field.

Constructor University’s multi-country setup prepares them to play a key role in today’s global and multiethnic societies. While many students join the industry in high-profile roles, the CSSEL program is also an excellent preparation for Ph.D. research in software engineering, cybersecurity, artificial intelligence and other advanced topics.



Facts and figures

Academic degree
Master of Science in Computer Science, Software Engineering and Leadership (CSSEL)

Language of instruction
English

Application & Admission dates
15th Jan - Early Bird (tuition fee reduction for Early Bird applicants)
30th of Apr for all students - Rolling admission*

Program start date
Mid September (classes)

Teaching mode
Hybrid mode (ideal if your visa is not ready on time)

Study duration
Classic program (120 ECTS):
4 semesters; Fast-track and part-time options available

Tuition
10,000 CHF per year for EU and EFTA students
20,000 CHF per year for non-EFTA and non-EU nationals

Location
Schaffhausen, Switzerland

Scholarships
Full scholarships and tuition waivers for students with excellent grades are available

Teaching benefits
Supported by a unique team of world-class scientists, educators, and leaders

What we offer

- Deep interdisciplinary technical expertise
- Entrepreneurial mindset and a can-do mentality
- Strong connections to major target industries
- High-tech, high-touch study environments

* deadline could be extended due to individual circumstances and availability

Program structure

➤ MSc in Computer Science, Software Engineering and Leadership (CSSEL)

Master Thesis / Seminar (m, 30 CP)						
➤ Year 2	Core (me, 5.0 CP)	Core (me, 5.0 CP)	Core / Research Project* (me, 5.0 CP)	Capstone Project III (me, 5.0 CP)	Transformational Change Management (m, 5.0 CP)	Customer-centric Mindset and Agile Delivery Management (m, 2.5 CP)
	Agile Leadership & Strategic Management (m, 2.5 CP)	Architectural Strategy (m, 5.0 CP)	Core (me, 5.0 CP)	Capstone Project II (me, 5.0 CP)	Product Innovation and Marketing (m, 5.0 CP)	Organizational Behavior (m, 2.5 CP)
➤ Year 1	Software Construction, Software Architecture and Software Engineering (m, 5.0 CP)	Quality Engineering (me, 5.0 CP)	Core (me, 5.0 CP)	Capstone Project I (me, 5.0 CP)	Agile Product Development & Design (m, 5.0 CP)	Academic Writing Skills / Intercultural Training (m, 2.5 CP)
	Entrepreneurship & Intrapreneurship (m, 2.5 CP)	Communication & Presentation Skills for Executives (m, 2.5 CP)	Core Technical Content		Management	Leadership / Academic Skills

m = mandatory, me = mandatory elective



Applying knowledge with the Capstone project

The Capstone project allows students to apply the knowledge and expertise in technical, management and leadership skills gained throughout the master's program in a "real-world" project that runs over the course of three semesters. The course teaches students how to effectively design reliable systems that meet the needs of producers and customers, developing solutions to agreed-upon problems with industry partners and laboratories that act as clients. Working closely with instructors and assistants, students are mentored and work in a modern environment supported by open-source IDEs and engineering tools.



Prof. Manuel Oriol

Career opportunities

Constructor Institute's master of science programs allow you to graduate with the skills needed to drive innovation in industry, academia, or through your own startup. Through interdisciplinary learning and the development of strong skills in various functional areas, the knowledge gained throughout the master's program will not only guide you to the career of your choice but will allow you to stand out as an exceptional candidate.

With scientifically up-to-date course content, the skills and knowledge required by the industry needs of today and tomorrow are expertly met. The students profit from unique opportunities such as employment through our network, research project participation, and opportunities to access the EU and Swiss job markets.



Future leadership jobs

- **Chief Architect (CA):** A crucial and active horizontal role to drive the technology delivery roadmap across the organization.
- **Chief Product Officer (CPO):** A strategic leader, visionary, and team supervisor of new-generation product management in which computer science, business, and innovation are combined.
- **Chief Program Officer (CPO):** A new leader who focuses on program value flow and delivery, stakeholder communication, cadence and planning, cross-team collaboration, and continuous improvement.
- **Chief Development Officer (CDO):** A strategic leader who shapes an enabling engineering environment – people, structure, agile processes, and tools.
- **Chief Security Officer (CSO):** A transformational leader who takes a "bodyguard" approach rather than a "gate-keeper" one.

Studying in Switzerland offers a unique and enriching experience that combines natural beauty, academic excellence, and a high quality of life.



Ananga Thapaliya, Nepal



Flora Teklit, Ethiopia



Yuri Gritsuk, Belarus



Take concrete steps toward the career of your dreams

Use the writing of a master's thesis to further enhance your career prospects or diversify into a different functional area.

- Research project
- Industry project
- Startup design

Industry partners

At Constructor Institute, we believe that to prepare the next generation of leaders in science, students must learn not only from renowned scientists but also from business leaders. Traditional technical education does not fully prepare students for a technical career. Our network of industry partners has experienced this first-hand. That is why we provide access points to several large software and IT organizations headquartered in Schaffhausen, allowing a one-of-a-kind relationship with industries.

- **Acronis:** Leader in cyber protection.
- **Acumatica:** Leading innovator in cloud ERP.
- **Parallels:** Leader in cross-platform solutions.
- **Plesk:** Leading WebOps hosting platform.
- **cPanel:** Industry-leading hosting platform.
- **Runa Capital:** Global venture capital firm.



C>ONSTRUCTOR
INSTITUTE

Knowledge through science

Find out
more here



Constructor Institute
Rheinweg 9 · 8200 Schaffhausen · Switzerland
www.institute.constructor.org