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UNIVERSITY OF AMSTERDAM

Master

Software Engineering

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Study programme

The Master's programme Software Engineering concerns the broad field of software engineering, a field that is in constant movement due to innovations in technology, design patterns and techniques. Software engineering distinguishes itself from classical computer science by its focus on human factors, system size and complexity of requirements.

The curriculum and courses

The curriculum of the Master's programme Software Engineering consists of four hard-skill technology-oriented courses, two soft-skill human-oriented courses, a course preparing you for your Master's Project and the Master's Project.

Study programme MSc Software Engineering			
Semester 1 Requirements Engineering (6 EC)	Software Specification, Verification and Testing (6 EC)	Model-Based Design of Cyber-physical Systems (6 EC)	Software Evolution (6 EC)
Preparation Master's Project Software Engineering (6 EC)			
Semester 2 DevOps and Cloud-based Software (6 EC)	Master's Project (18 EC)		
Software Process (6 EC)			

Courses

All courses include lectures, practicals and labs. You continuously work on assignments either in small groups or individually in order to immediately practise the skills obtained and to apply theoretical knowledge in realistic but still controlled contexts.

Preparation Master's Project

The Preparation Master's Project course stretches the entire first semester. You learn general academic skills and are exposed to a large body of scientific literature from the field of software engineering. The course culminates in writing your own research proposal and presenting it in a plenary meeting in front of your fellow students and the lecturers of the Master's Software Engineering.

Master's Project

The curriculum concludes with the Master's Project (18 EC) that leads to a Master's thesis to be defended in front of a committee. The Master's Project entails genuine academic research, adding knowledge to and gathering new evidence for the field of software enginering. You may conduct your

Master's Project within one of the many research groups at the UvA Faculty of Science, one of the research institutes conveniently located at Amsterdam Science Park or in the context of an industry internship in one of the many high-tech software engineering companies in Amsterdam and surrounding area.

Detailed course information

For detailed information regarding the curriculum and courses, please see the UvA Course Catalogue via the link below.

UvA Course Catalogue - Software Engineering ⬀ (https://coursecatalogue.uva.nl/xmlpages/page/2022-2023-en/search-programme/programme/7233)

Research projects

Lab assignments are part of the programme. Most are conducted in small groups and have to be completed in one or two weeks. This requires that you work together with other students at the faculty, and do all your reading in advance at home. As the year progresses, more and more projects are carried out on an individual basis under supervision.

The end of the year is reserved for your individual Master's project (18 EC), which requires real academic research. There is an extensive array of possible subjects. Many students choose to conduct their project within the National Research Institute for Mathematics and Computer Science (CWI (http://www.cwi.nl/), located next to the faculty). Part-time students who combine the programme with a job can choose a subject that is of interest to their employer. Another great way to help you choose an appropriate research project is the SE Thesis Fair. At this event students and organisations meet during speed dating sessions while trying to make a match.

Academic support

Due to the pace and intensity of the study programme, personal supervision is essential. The SE staff members will provide you with substantive feedback on your many final products and interim results. You will meet with your coordinators on a weekly basis, to discuss your own individual progress as well as the study programme as a whole. This can result in measures to adjust general facilities or the content of courses. It also helps to signal the possible overburdening of students, and to monitor the functioning of study groups.

Part-time study

SE can be done as a part-time study, in two years instead of one. Various companies offer the possibility to follow the programme within working hours.

- study hours: per week 16 contact hours (two days: Monday and Tuesday, or Wednesday and Thursday) + approximately 4 hours self-study
- study load: 6 EC (one course) per block
- first year: three courses + preparation Master's project
- second year: three courses + completion Master's project

One of the biggest challenges for part-time students is the Master's project. For most, the project will cause a significant increase in the duration of their study. Choosing a subject that is of interest to your employer can provide you with extra study time. We prescribe the following time allocation for the Master's project:

Year 1

- January: subject selection, part-time

- April - June: preparation and start, part-time

Year 2

- April - May: execution, *full-time*
- June: finishing up, part-time

Pre-Master's programme

The objective of the pre-Master's programme is to equip students selected by the Admissions Board with the necessary knowledge and skills to successfully complete the Master's programme. This personalised pre-Master's programme helps us to achieve one of the university's highest success rates.

Learn more about the pre-Master's programme → (/en/programmes/masters/software-engineering/study-programme/pre-masters-programme/pre-masters-programme.html)

Accreditation and title

This Master's programme has been accredited by the Accreditation Organisation of the Netherlands and Flanders (NVAO) (http://www.nvao.com/). Upon successful completion of the programme (a total of 60 ECTS), students will receive a legally recognised Master's degree in Software Engineering and the title of Master of Science (MSc).

Bring your own device

All students enrolled in Software Engineering are requested to bring their own laptop, due to the nature of the programme. More information on specific system requirements can be found here (http://student.uva.nl/se/shared/studentensites/fnwi/iw-gedeelde-content/en/az/bring-your-own-device/byod.html?origin=8v4iJ3FWRaq

gKilMwDKZxQ).

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