



Master Computer Science

Introduction

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Overview

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Overview

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Goals of the Master Program

Broad Education

↪ you have to choose modules from multiple areas

Deep Education

- we encourage specialization
- focus colloquium

Independence

- You are responsible for your studies!
- no fixed study plan
- no mandatory courses

Qualification

- for leadership positions
- for PhD

Overview

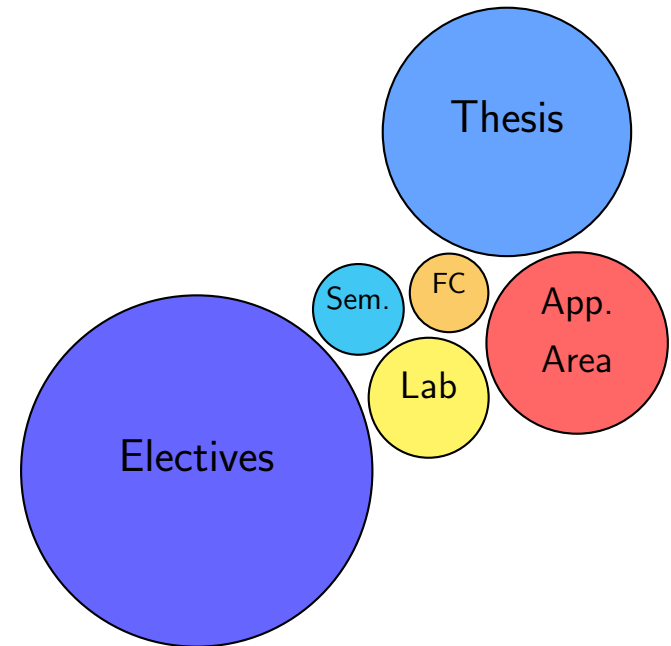
Structure of the Master Program

Electives	58 – 66 CP
Seminar	4 CP
Lab	7 CP
Focus Colloquium	3 CP
Application Area	10 – 18 CP
Thesis	30 CP
Course on Scientific Integrity	0 CP
Requirements	0 – 42 CP
Voluntary Additional Courses	0 – ∞ CP

Σ ≥ 120 CP + Requirements

> 120 CP

all courses count fully, or not at all



Electives

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Electives

Areas

Theoretical CS	Visual Computing & Interaction	AI & Data	Software Methods & Tools	Hardware/Software Systems
≥ 12 CP	two times ≥ 12 CP			
Algorithms Logic Verification ...	Computer Graphics VR Computer Vision ...	Language Processing Data Science Machine Learning ...	Project Management Quality Assurance HPC ...	IT-Security Embedded Systems Internet Technology ...

only electives count for the limits above

General Information

Components

lecture	typically 3h/week
exercise	typically 1-2h/week
exam	at end of semester

Registration

- via RWTH Online
you automatically get access to
RWTHmoodle, mailing list, ...
- no unified registration period
- ⚡ separate registration for exam!

Admission for Exams

- teachers fix admission criteria
 - achieve minimum score in exercises
 - midterm exam
 - ...
- admission valid for only one year

Always go to the first lecture!

RWTH Online

Campus Management System

- overview of courses for...
 - the current semester
 - the whole master program
- registration for most modules & exams
- overview of grades
- calendar with your courses
- ...

URLs

- RWTH Online: <https://online.rwth-aachen.de>
- Manuals: <https://wiki-intern.rwth-aachen.de/display/RD/FAQ+for+Students>

Registration – Live Demo

RWTH Online – Test System

Exams

General Information

- written or oral
- 2 exams at end of semester
 - might differ in application area
- you cannot repeat passed exams
- after 3 failures: choose different elective

Registration

- separate registration for **each** exam
- standard registration periods
 - 1st exam: 1.4. – 15.7. / 1.10. – 15.12.
 - 2nd exam: until 7 days before the exam
- ⚡ Teachers may modify these dates!
- registration for 2nd exam after results of 1st exam were published

Deregistration – <https://www.rwth-aachen.de/go/id/eir/lidx/1>

Until 3 working days before. If you are ill...

- doctor's certificate issued on or before the day of the exam
- must indicate that you cannot take exams on that day
- ⚡ No “not fit for work” certificates!
- must be at ZPA on the 3rd working day after the exam

Electives

Central Examination Office Zentrales Prüfungsamt (ZPA)

What they do

- examination administration
- recording of grades
- exam registrations
- exam deregistrations / withdrawal
- admission check for thesis
- issues various certificates
- ...

Exam Registration – Live Demo

RWTH Online – Test System

Seminar and Lab

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

What it is about

offered by all CS-chairs, various topics

Seminar

- independent work (with supervision)
 - ↪ no collaboration with other students
- topic from the literature
- written report & presentation
- usually as “Blockseminar”
 - ↪ all talks within a few days after lecture period
- (rare) alternative: weekly meetings

Lab

- collaborate in small groups
- usually software projects
- details differ, depending on the organizer
- ⚡ No industry internships!

Organizational Matters

General Information

- starts with kickoff-meeting
- seminar / lab passed $\curvearrowright$ you cannot take another one
- withdrawal possible until 1 weeks after distribution of topics
 - ⚡ Until recently: 3 weeks
- ⚡ 3 fails $\curvearrowright$ end of studies!

Registration – <https://supra.informatik.rwth-aachen.de/>

- central distribution system
- registration in June/July for winter term, December/January for summer term
- further information in kickoff-meeting

Focus Colloquium

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Focus Colloquium

What it is about

- oral exam
- 3 courses
- topics must be connected
 - electives you've done ✓
 - electives you've done during your bachelor ✓
 - electives you haven't done ✓ / ?
 - seminar ?
 - lab ?
 - courses from different professors ?
 - courses from different research groups ?
 - mandatory bachelor courses ✗

Why it is important

- “just” 3 CP
- ⚡ Counts **four-fold** for your final grade!

Finding & Registering a Topic

- ⚡ Start planning **now!**
- ⚡ Have a **plan B!**
- contact professors – they must approve your choice of modules
- ⚡ Schedule in time!
- registration by examiners

Course on Scientific Integrity

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Course on Scientific Integrity

<https://www.rwth-aachen.de/go/id/mylsw/lidx/1/>

- online course
- provided via Moodle
- exam
 - online
 - twice per semester
- mandatory for all master (and PhD) students
- required for registering your thesis

Thesis

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

General Information

General Information

- thesis & presentation, 30 CP
- ⚡ **New:** presentation $\leq$ 6 weeks after submission!
- two reviewers
 - grade: average
- 6 months

Prerequisites

- $\geq$ 60 CP
- requirements
- course on scientific integrity

What if I fail?

- can be repeated **once**
- ⚡ You must register for a new thesis within 3 semesters!

Registration

- online, via request to the examination board
- examination board informs you about deadline

Finding a Topic

Where?

- CS professors only
- ⚡ no topics from industry
- ⚡ no topics from other departments
 - even if they advertise them...
 - rare exception: cross assignments
- typically within your “specialization”

How?

- check websites
- get in touch
- get connected
 - supervisor from seminar
 - supervisor from lab
 - become a student assistant

When?

- may take time
- may require training period
- ↪ start planning several months ahead

Pitfalls

- ⚡ popular specialization ↪ hard to find topics
- ⚡ professors / scientific staff may leave
- ⚡ Think about your specialization(s) **now!**
- ⚡ Have a **plan B!**
- last resort: request “support for finding a thesis” at examination board

Paperless – the Examination Board's Online System

Paperless

Application Area

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Application Area

How it works

Choose non-CS modules from large catalog, including...

- Business Administration
- Electrical Engineering
- Mathematics
- Philosophy
- Mechanical Sciences
- Medical Sciences
- Physics
- Biology
- Chemistry
- Psychology
- . . .

Requirements

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Requirements

What they are

- Bachelor modules
- have to be done in addition to your master studies
 - no influence on standard period of study
- almost always in German

Practical Information

- listed in admission letter
- registration via RWTH Online
 - ⚡ exception: “elective course from Theoretical Computer Science”
 - ↪ register at ZPA
- no grades
- required for registering your thesis

Voluntary Additional Courses

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Voluntary Additional Courses

What can I choose?

arbitrary RWTH courses – if the examiners allow it

How does it count?

- grades on final certificate
- no impact on overall grade

Registration

- ideally via RWTH Online
- otherwise: get in touch with examiners
- **have to be declared at ZPA**
 - ⚡ until 1 week after you get your last grade

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Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

Choosing Electives

- video introductions to electives
<https://sc.informatik.rwth-aachen.de/de/wahlpflicht/>
- RWTH Online
- group websites
<http://www.informatik.rwth-aachen.de/>
- unofficial info page
<https://rwthoffline.de/>
- Go to lectures at beginning of semester!

Staying Abroad

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

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Where?

Partner universities!

When?

- anytime
- 4 semesters pass by quickly
- ↪ Start planning now!

How?

- learn teaching language
 - RWTH language center
- no extension of study duration – with good planning
 - transfer of credits
 - leave of absence
- dedicated academic advisor – `student-exchange@cs.rwth-aachen.de`

<https://www.comsys.rwth-aachen.de/teaching/outgoings/>

Further Information

Outline

Overview

Electives

Seminar and Lab

Focus Colloquium

Course on Scientific Integrity

Thesis

Application Area

Requirements

Voluntary Additional Courses

Choosing Electives

Staying Abroad

Further Information

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- [mentor program](#)
 - registration via RWTH Online
- [Center of Studies – Computer Science](#)
- [mailing list](#)
 - `msinf@lists.rwth-aachen.de`
 - you're subscribed automatically
- [Student Advice Center](#)
 - for questions that are not specific to your course of studies
 - workshops, talks, ...
- [Allgemeiner Studierendenausschuss](#)
 - university-wide student organization
- [Fachschaft](#)
 - student organization of the departments CS, Mathematics, and Physics
- [Computer Science Library](#)
- [Main Library](#)

Thank you for your attention

Any questions?