

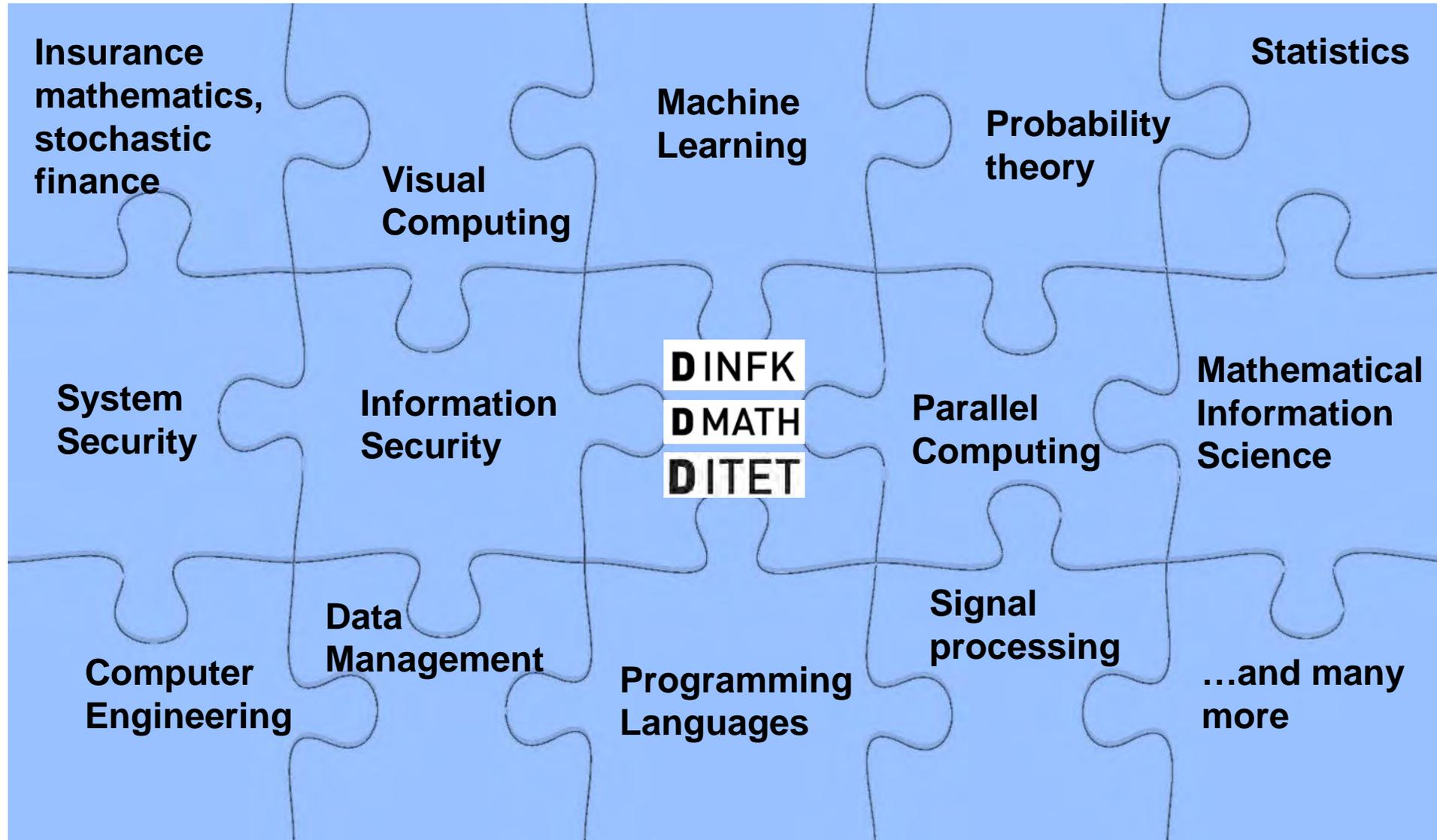


Welcome to the Department!

**Prof. Dr. Adrian Perrig**  
Deputy Director of Studies

15 September 2025

# Broad Spectrum of Topics in Research and Education



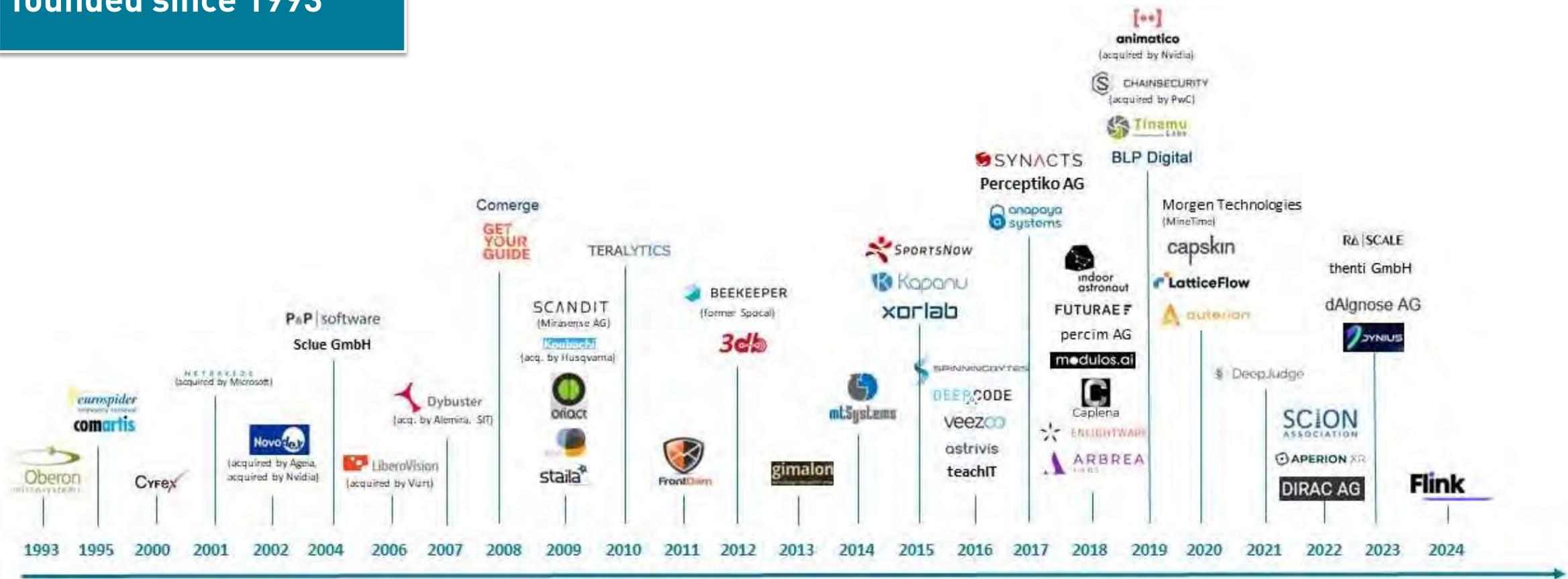
# Top-Ranked CS Departments Worldwide



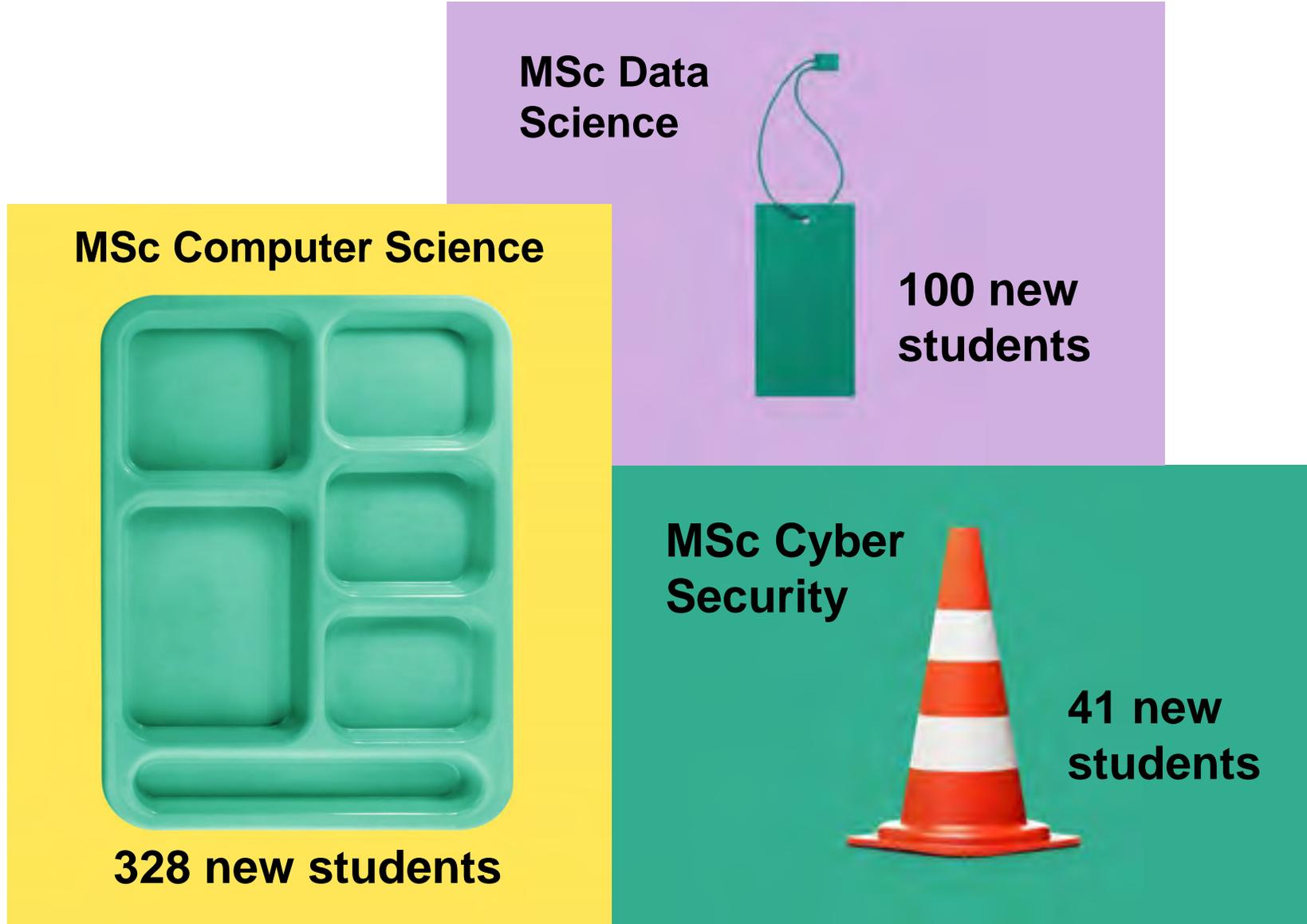
Rank 2025	Institution	Country
1	University of Oxford	United Kingdom
2	University of Cambridge	United Kingdom
3	Massachusetts Institute of Technology	United States
4	<b>ETH Zurich</b>	<b>Switzerland</b>
5	Stanford University	United States

# Start Your Own Company

58 D-INFK Spin-offs  
founded since 1993

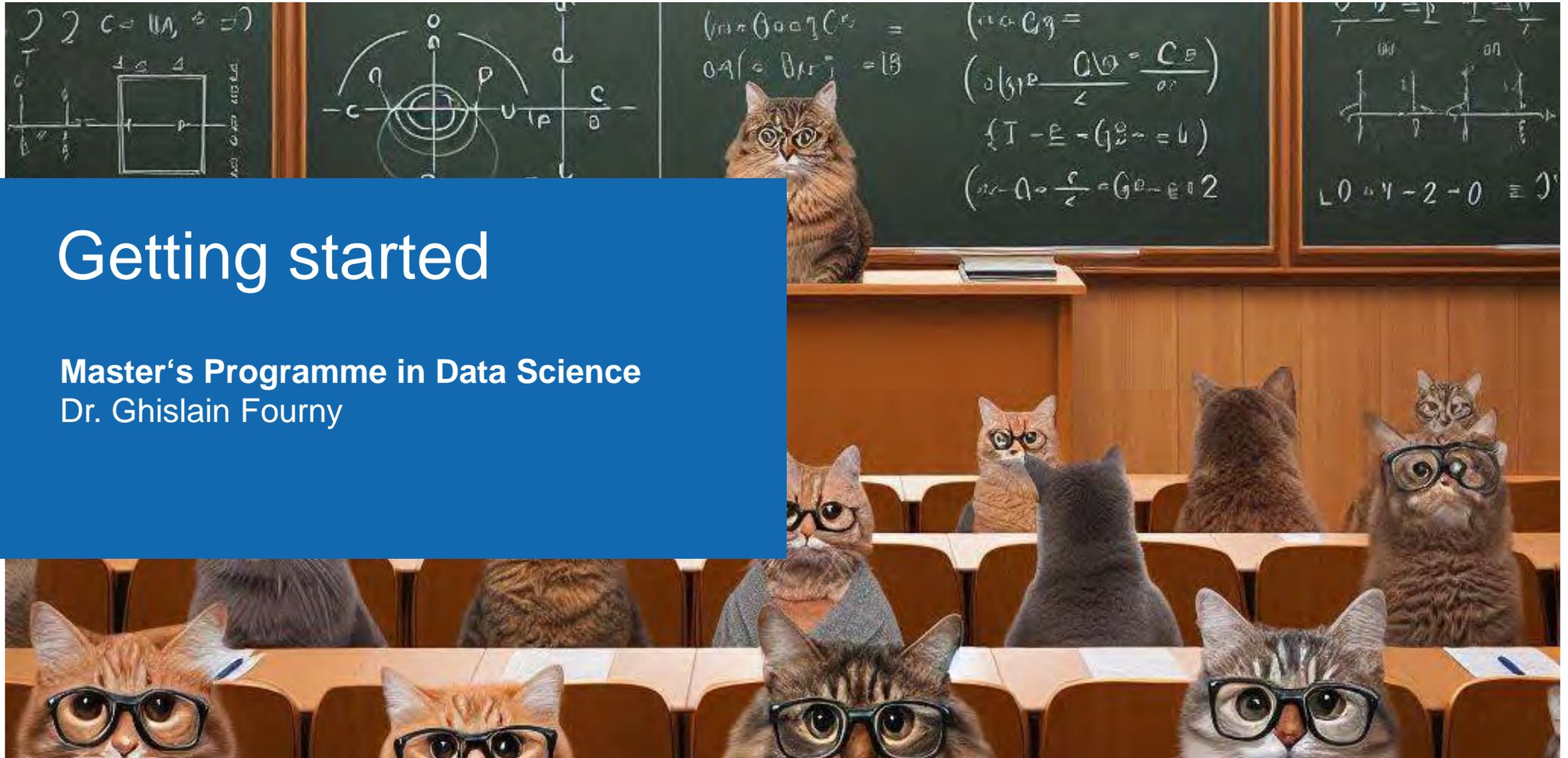


# D-INFK Master's Programmes



# Some Quick Advice

- Take advantage of the unique opportunity of studying at ETH
- Attend classes, interact with your peers, TAs, and faculty
- Work hard, practice self-reflection, seek help when needed
- Make this not only a degree, but a major step in your life and career
- Stay positive and have fun!



# Getting started

**Master's Programme in Data Science**  
Dr. Ghislain Fourny

A joint programme across three departments

**D INFK**

Computer Science

**D MATH**

Mathematics

**D ITET**

Electrical Engineering

Master's programme  
in *Data Science*

ETH has 16 departments,  
identified with four letters  
(D-AAAA)

# Who's who



Prof. Thomas Hoffman  
*Head of the Computer  
Science Department*

Dr. Ghislain Fourny  
*Study Coordinator*

Questions on planning your studies  
and course catalog

[ghislain.fourny@inf.ethz.ch](mailto:ghislain.fourny@inf.ethz.ch)



Prof. Dennis Hofheinz  
*Director of Studies*  
Examination regulations  
Validation of examination  
results

Tamlyn Altmann  
*Studies Administration*

Main point of contact

[tamlyn.altmann@inf.ethz.ch](mailto:tamlyn.altmann@inf.ethz.ch)



# Mentors (Core Data Science Faculty)



Appointed at the start of the studies

Discuss and approve your *learning agreement*

...and many more Professors who can supervise Master's theses.



# The Master's Programme

# Study Guide

**Read it!**



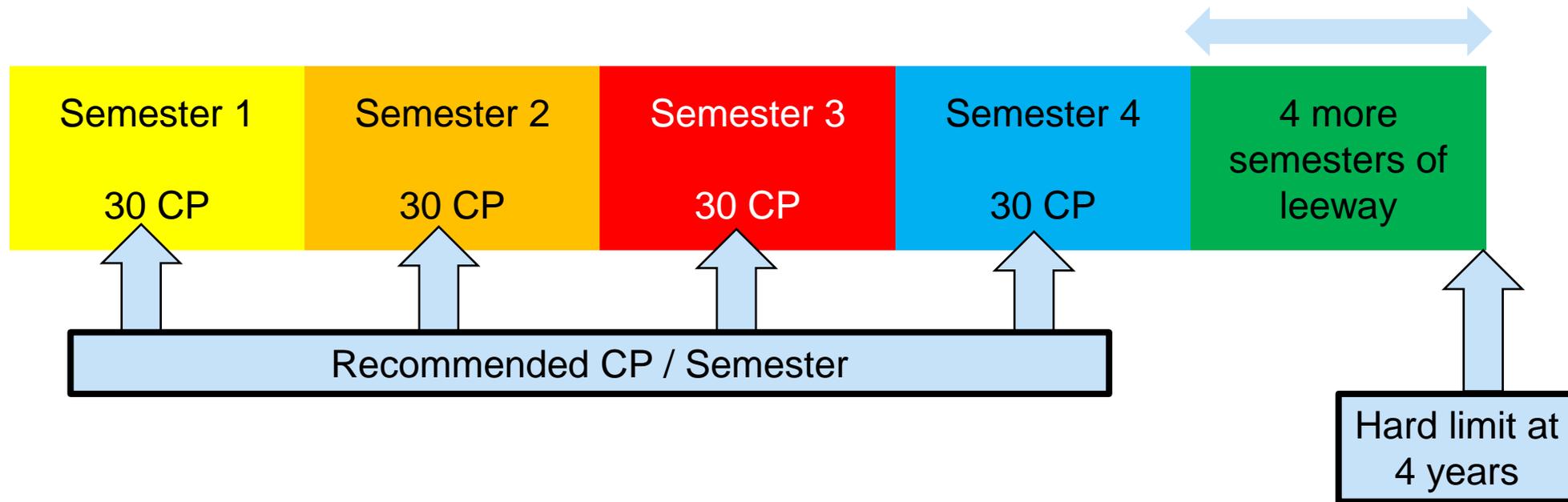
# European Credit Transfer System (ECTS)

Course completed successfully

→ **full amount** of ECTS credits is awarded



# 120 Credit Points



The last semester focuses completely on the Master's thesis.

# Grading System

6	Excellent
5.75	Excellent
5.5	Very good
5.25	Very good
5	Good
4.75	Good
4.5	Satisfactory
4.25	Satisfactory
4	Pass
3	Poor
2	Extremely poor
1	Not measurable

**Pass: grade  $\geq 4$**

**Fail: grade  $< 4$**

Every failed examination or project can be **repeated once**.

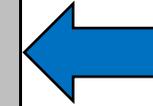
# Programme Structure

<b>Master in Data Science</b>	<b>120</b>
Core Courses	32
Data Analysis	16
Data Management und Processing	16
Electives	28
Subject-specific Electives	20
Interdisciplinary Electives	8
Additional Electives	0
Data Science Lab	10
Seminar	2
Science in Perspective	2
Master's Thesis	30

# Programme Structure

**Master in Data Science**

120



Minimum required  
credit points



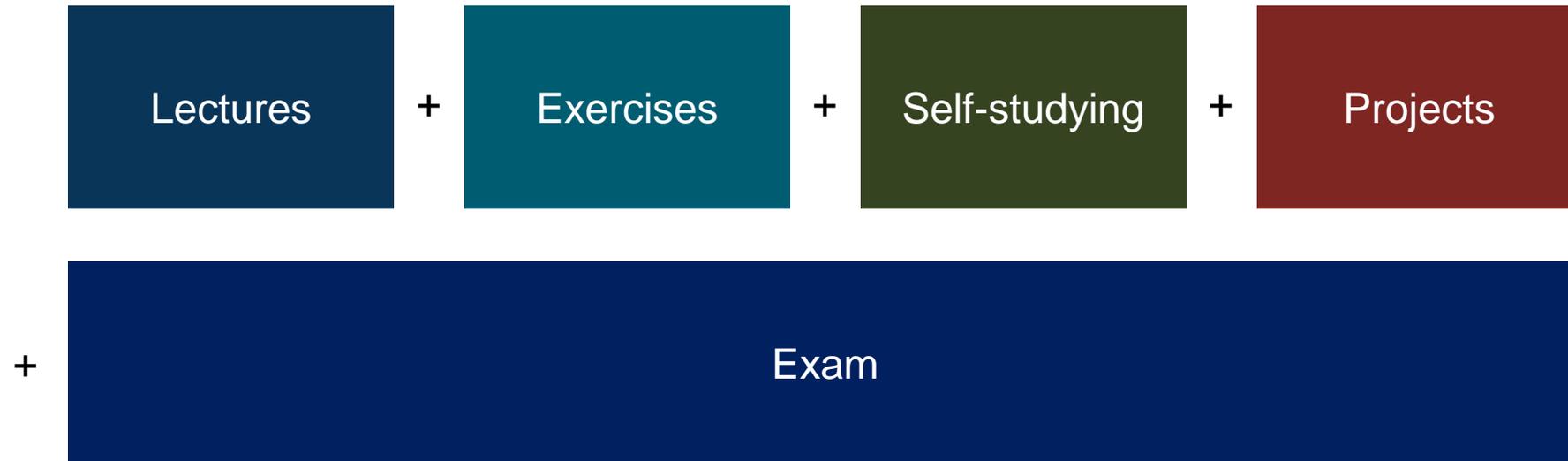
# Programme Structure

<b>Master in Data Science</b>	120
Core Courses	32
Data Analysis	16
Data Management und Processing	16

# Core courses

High level of competence in Data Science

*Solid and sound knowledge basis.*



# Core courses

Roughly:

At least *two* here

## *Data Analysis*

- Advanced Machine Learning (10) **Fall**
- Probabilistic Artificial Intelligence (8) **Fall**
- Mathematics of Information (8) **Spring**
- Mathematics of Data Science (8) **Fall**
- Computational Statistics (8) **Spring**

At least *two* here

## *Data Management and Processing*

- Big Data (10) **Fall**
- Data Management Systems (8) **Fall**
- Optimization for Data Science (10) **Fall**
- Algorithmic Foundations of Data Science (10) **Spring**
- Advanced Algorithms (9) **Fall**

Very important!

Do take the core courses in the first two semesters!

You cannot start the Master thesis without these, so starting with these gives you a safety buffer.

You also cannot start the Data Science Lab without half of these.

# Programme Structure

<b>Master in Data Science</b>	<b>120</b>
Core Courses	32
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Subject-specific Electives	20
Interdisciplinary Electives	8
Additional Electives	0

# Electives – Subject Specific Electives

The electives provide a broader education with a higher level of customizability

▶ ▶ Electives					
▶ ▶ ▶ Subject-Specific Electives					
Number	Title	Type	ECTS	Hours	Lecturers
151-0563-01L	<a href="#">Dynamic Programming and Optimal Control</a> ⓘ	W	4 credits	2V + 1U	R. D'Andrea
261-5130-00L	<a href="#">Research in Data Science</a> ⓘ !	W	6 credits	13A	Professors
252-3005-00L	<a href="#">Natural Language Processing</a> ⓘ !	W	7 credits	3V + 3U + 1A	R. Cotterell
263-2400-00L	<a href="#">Reliable and Trustworthy Artificial Intelligence</a> ⓘ	W	6 credits	2V + 2U + 1A	M. Vechev
263-3210-00L	<a href="#">Deep Learning</a> ⓘ !	W	8 credits	3V + 2U + 2A	G. R. Obozinski, F. Perez Cruz
263-5005-00L	<a href="#">Artificial Intelligence in Education</a>	W	3 credits	1V + 0.5U	M. Sachan
263-5056-00L	<a href="#">Applications of Deep Learning on Graphs</a> ⓘ ! <small>Does not take place this semester.</small>	W	4 credits	2G + 1A	G. Rätsch
263-5300-00L	<a href="#">Guarantees for Machine Learning</a> ⓘ !	W	7 credits	3V + 1U + 2A	F. Yang
263-5351-00L	<a href="#">Machine Learning for Genomics</a> ⓘ !	W	6 credits	2V + 2U + 1A	V. Boeva
263-5902-00L	<a href="#">Computer Vision</a> ⓘ	W	8 credits	3V + 1U + 3A	M. Pollefeys, S. Tang, S. Prokudin
227-0155-00L	<a href="#">Machine Learning on Microcontrollers</a> ! <small>Registration in this class requires the permission of the instructors. Preference is given to students in the MSc EEIT.</small>	W	6 credits	4G	M. Magno
227-0417-00L	<a href="#">Information Theory I</a>	W	6 credits	4G	S. M. Moser, A. Lapidoth
227-0560-00L	<a href="#">Computer Vision and Artificial Intelligence for Autonomous Cars</a> ⓘ ! <small>Up until FS2022 offered as Deep Learning for Autonomous Driving</small>	W	6 credits	3V + 2P	C. Sakaridis

# Electives – Subject Specific Electives

The electives provide a broader education with a higher level of customizability

Number	Title	Type	ECTS	Hours	Lecturers
227-0689-00L	<a href="#">System Identification</a>	W	4 credits	4G	R. Smith
401-0625-01L	<a href="#">Applied Analysis of Variance and Experimental Design</a>	W	5 credits	2V + 1U	L. Meier
401-3054-14L	<a href="#">Probabilistic Methods in Combinatorics</a>    Does not take place this semester.	W	5 credits	2V + 1U	B. Sudakov
401-3055-64L	<a href="#">Algebraic Methods in Combinatorics</a>	W	5 credits	2V + 1U	B. Sudakov
401-3601-00L	<a href="#">Probability Theory</a>    At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office ( <a href="http://www.math.ethz.ch/studiensekretariat">www.math.ethz.ch/studiensekretariat</a> →) after having received the credits. Moreover, 401-3601-00L Probability Theory can only be recognised for the Master Programme in Mathematics if neither 401-3642-00L Brownian Motion and Stochastic Calculus nor 401-3602-00L Applied Stochastic Processes has been recognised for the Bachelor Programme.	W	9 credits	4V + 1U	V. Tassion
401-3612-00L	<a href="#">Stochastic Simulation</a>   Does not take place this semester.	W	5 credits	2V + 1U	
401-3622-00L	<a href="#">Statistical Modelling</a>	W	7 credits	4G	P. L. Bühlmann
401-3621-00L	<a href="#">Fundamentals of Mathematical Statistics</a> 	W	9 credits	4V + 1U	J. Ziegel
401-4623-00L	<a href="#">Time Series Analysis</a>   Does not take place this semester.	W	4 credits	2G	F. Balabdaoui
401-4632-15L	<a href="#">Causality</a>	W	5 credits	3G	J. Peters
401-4656-21L	<a href="#">AI in the Sciences and Engineering</a>    Aimed at students in a Master's Programme in Mathematics, Engineering and Physics.	W	6 credits	2V + 2U	S. Mishra

# Electives - Interdisciplinary Electives



Bridge the *gap* with other **disciplines**  
**cultures**  
**mindsets**

**8-12** credits

Data Science would not exist without

# Data

# Electives - Interdisciplinary Electives



## *Course compilations*

- Computational Biology, Bioinformatics, and Biomedicine
- Computer Networks
- Finance & Insurance
- Geographic Information Systems
- Law, Policy, and Innovation
- Neural Information Processing
- Robotics
- Social Networks
- Transport Planning and Systems
- Weather and Climate Systems

# Electives – Additional Electives

**D INFK**  
**D MATH**  
**D ITET**

**Any Master's level  
course offered by the  
three departments!**

**Not Bachelor courses!  
(Too easy)**

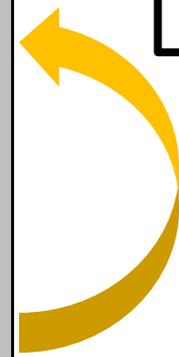


**Any interdisciplinary  
elective (from any  
category)**

# Programme Structure

Master in Data Science		120
Core Courses		32
Data Analysis	16	
Data Management und Processing	16	
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Interdisciplinary Electives	8	
Additional Electives	0	

16 up to you

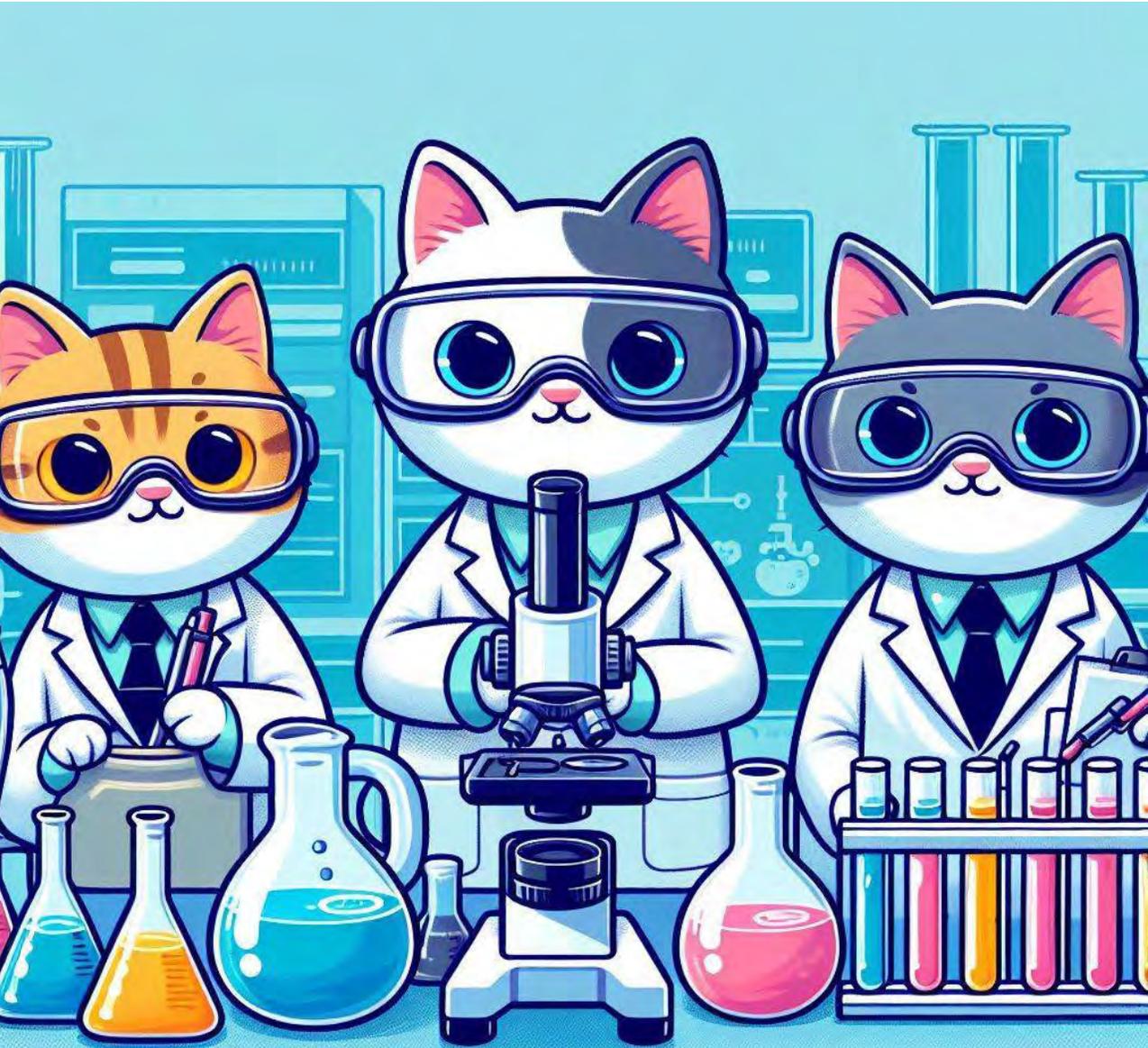


Does not sum up:  
**freedom**

# Programme Structure

<b>Master in Data Science</b>	<b>120</b>
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Electives	28
Subject-specific Electives	20
Interdisciplinary Electives	8
Additional Electives	0
Data Science Lab	10

# Data Science Lab



Apply your knowledge and skills to  
*Interdisciplinary* projects

Groups of three students  
+  
Presentation

# Programme Structure

<b>Master in Data Science</b>	<b>120</b>
Core Courses	32
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Data Management und Processing	16
Electives	28
Subject-specific Electives	20
Interdisciplinary Electives	8
Additional Electives	0
Data Science Lab	10
Seminar	2

# Seminar



*Read* and *understand* publications

*Present* a research paper

Get involved in *discussions*

# Programme Structure

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Electives	28
Subject-specific Electives	20
Interdisciplinary Electives	8
Additional Electives	0
Data Science Lab	10
Seminar	2
Science in Perspective	2

# Science in Perspective



*Humanities* and *Social Sciences*

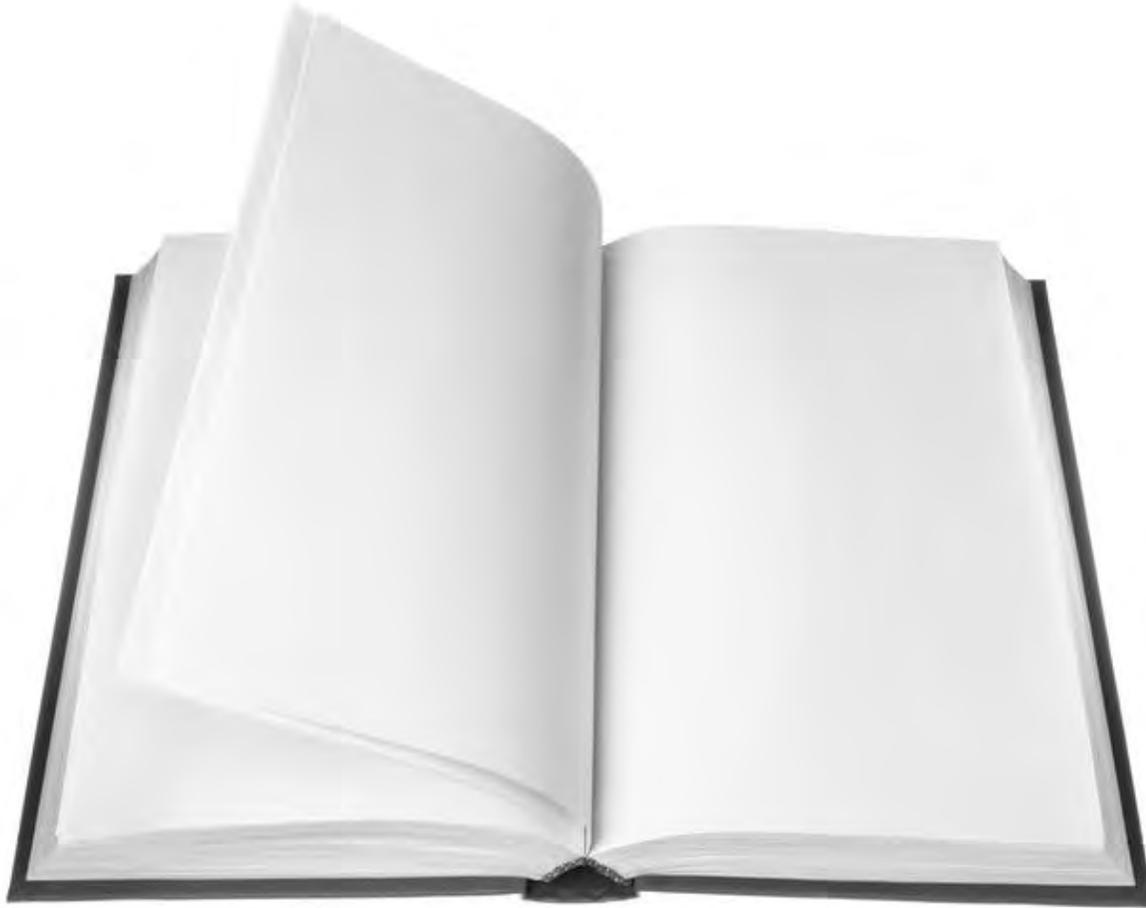
*Language* courses 851-xxxx-xx  
( $\leq 3$  credits including ETH BSc)

Coordinator's pick:  
*Big Data, Law, and Policy*

# Programme Structure

<b>Master in Data Science</b>	<b>120</b>
Core Courses	32
Data Analysis	16
Data Management und Processing	16
Electives	28
Subject-specific Electives	20
Interdisciplinary Electives	8
Additional Electives	0
Data Science Lab	10
Seminar	2
Science in Perspective	2
Master's Thesis	30

# Master's Thesis



This is the *final step!*

6 months of *research*  
and *complex problem*  
*solving*

(And think about your future... maybe a doctorate?)

# General recommendations

- Stick to *30 credits* per semester (do not overload).
- Start with the *core courses*. *Otherwise you risk not being able to start the Lab or the Master's Thesis!*
- *Data Science Lab* after interdisciplinary courses, ideally in the same field
- The *median duration* is 5 semesters. Do not worry if you also need 5 semesters.

# Exchange programs



Prof. Dr. **Bernd Gärtner**



**Brigitte Marti**

- Only for students with a ETH bachelor degree
- Not in the first semester
- Recommended: exchange in the second semester

*(No credits for "core core" courses and Data Science Lab)*



Plan your studies

# Learning Agreement

[www.mystudies.ethz.ch/Functions](http://www.mystudies.ethz.ch/Functions)

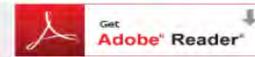
## Programme

Confirmation of matriculation for Autumn Semester 2023 valid until 3 March 2024

Standard  Extended (e.g. for Immigration Office)

[Download PDF](#)

To check the digital seal, the saved file must be opened with the free Adobe Acrobat Reader.



Save the matriculation certificate in a safe place for multiple use.

Tutor **Prof. Dr. A. Bandeira**

Compose your individual learning agreement in accordance with your tutor

[Learning Agreement](#) →

# Create your learning agreement

**Course**  Not registered  Registered  Passed  Repetition failed  No more available  Failed  
**Sem** Semester **A**: Autumn Semester **S**: Spring Semester  
**Completion of mandatory courses** Declare how mandatory courses will be or have been completed: **Yes**: In this programme **Bachelor**: In the Bachelor or another ETH programme **Other university**: At another university **No**: Not planned in this programme  
**Not regular** Category assignment differs from that in the Course Catalogue.  
**Changes** **New**: Newly added, **Moved**: Moved to another category, **Modified**: Text modified, for external course units only.

Category	Number	Course Title	Sem	ECTS credits			Completion of mandatory course	Not regular	Changes
				Planned	Needed	Missing			
<b>Core Courses and Electives</b>				0	76	<b>76</b>			
<b>Core Courses</b>				0	32	<b>32</b>			
<b>Data Analysis</b>				0	16	<b>16</b>			
<b>Data Management</b>				0	16	<b>16</b>			
<b>Electives</b>				0	28	<b>28</b>			
<b>Subject-Specific Electives</b>				0	20	<b>20</b>			
<b>Interdisciplinary Electives</b>				0	8	<b>8</b>			
<b>Additional Electives</b>				0	0				

- Data Science Lab, Seminar, Science in Perspective, Master’s Thesis are **not** part of the learning agreement
- Interdisciplinary Electives must be chosen from one compilation only – minimum 8 credits, minimum 2 courses

# Learning Agreement

- Submit your learning agreement [after](#) discussing with your tutor.
- The first version of the learning agreement must be submitted and approved [within four weeks after the first semester has started](#).
- The final version must be submitted before registering for the master's thesis.
- You can revise your learning agreement later. Some courses may be cancelled and you have to revisit your plans.

Very important!

Keep your learning agreement up-to-date.  
Get approval for any changes at every semester start!

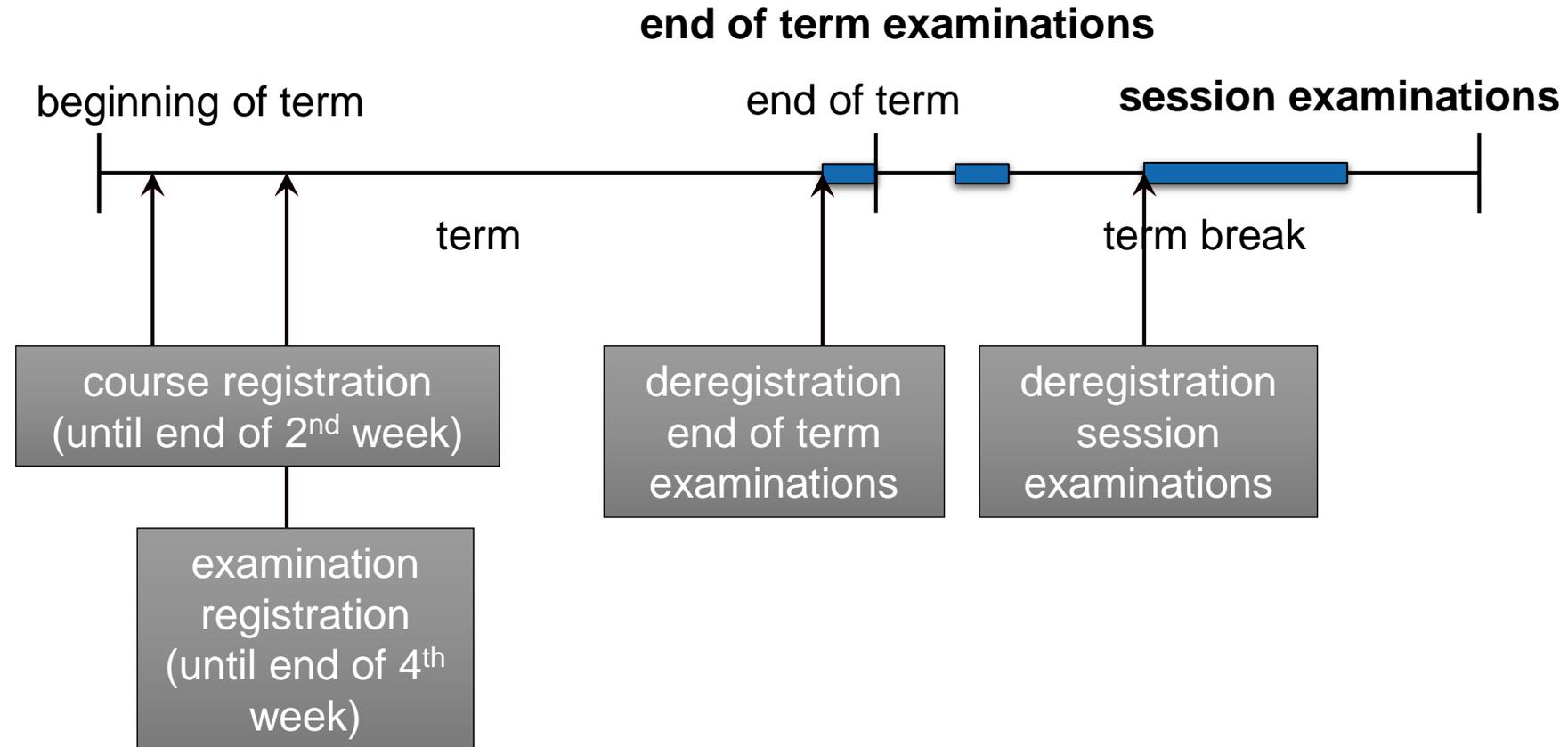
There is no guarantee courses not in the learning agreement can be assigned to a credit category. The study administration can fix some things, but not everything.

You will avoid a frustrating situation to your future self when you start your Master's thesis.

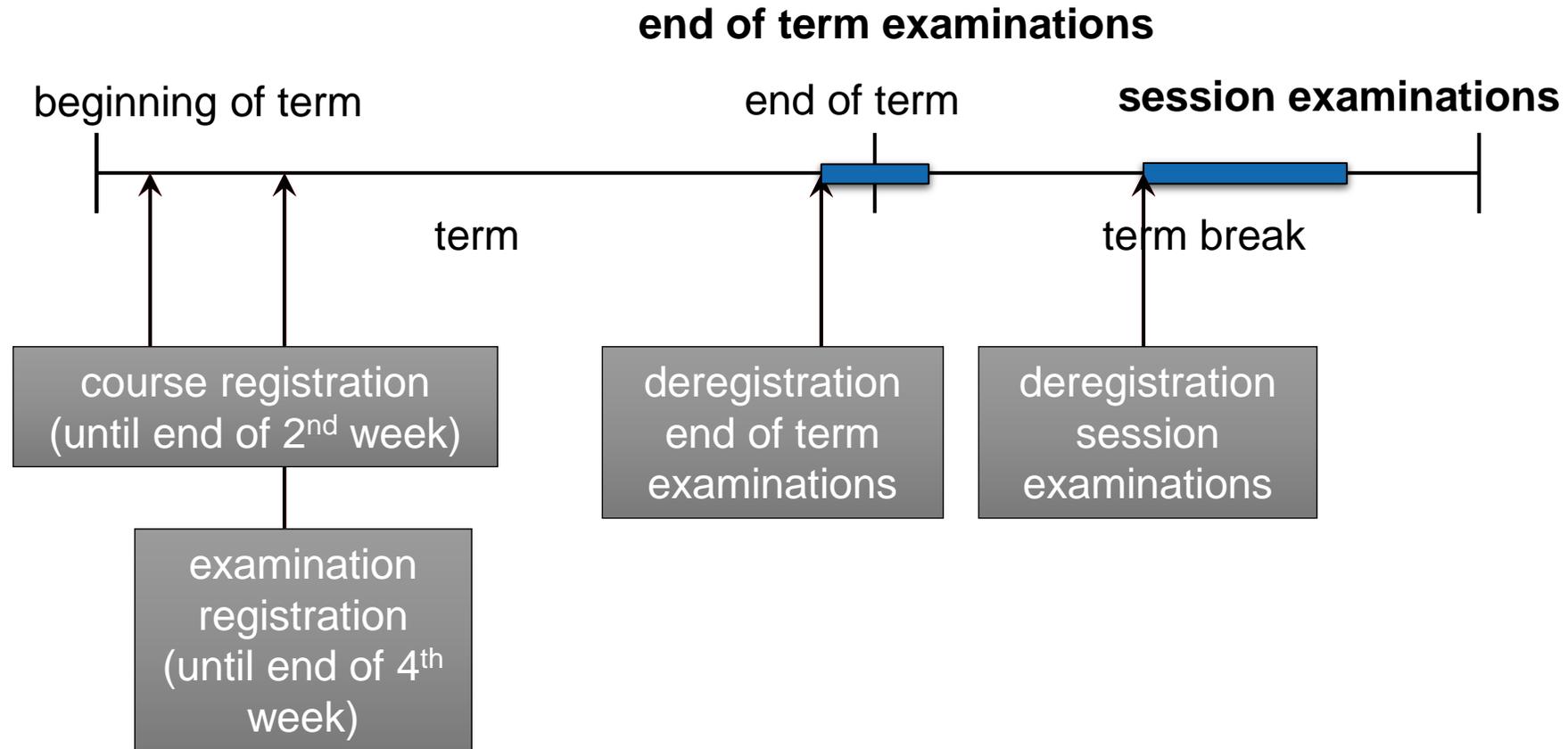


# Academic Year

# Autumn Semester



# Spring Semester

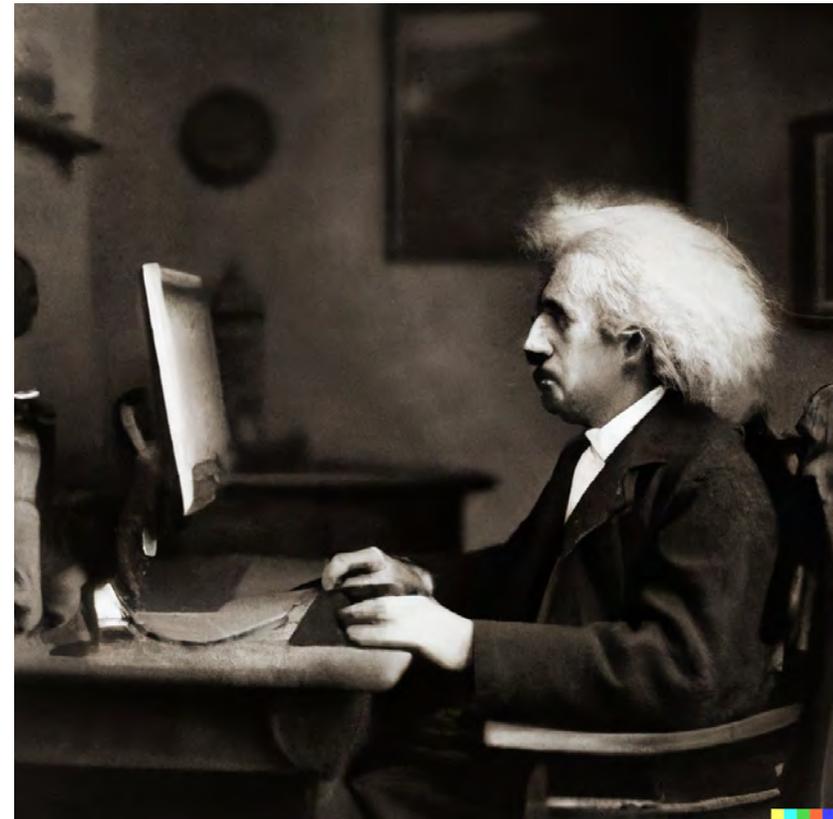


# Deadlines

Important deadlines (course registrations, exam registration and deregistration, etc.) are always announced ahead of time via *e-mail*

[albert.einstein@student.ethz.ch](mailto:albert.einstein@student.ethz.ch)

Make sure you read your e-mails!



# Preparing Examinations

- Solve the *exercises* during the semester
- Solve *old examinations* (available from the student body, i.e. VIS)
- *Oral examinations*: Get minutes of former examinations from VIS
- If you have *questions*, ask your fellow students or the assistants



*highly, highly, highly recommended*  
to attend all lectures and exercise sessions

# Course times



3 pm – 4 pm

actually means

*3:15 pm – 4:00 pm*

- **At ETH Zentrum (here):** Classes start a **quarter past** the indicated hour.
- **On Hönggerberg Campus:** depends on exact building course is in! see <https://ethz.ch/students/en/studies/academic-support/course-catalogue/lectures-times.html>
- Also check <https://ethz.ch/students/en/studies/academic-support.html> for general information – including lecture recording links, etc

# Exam times



This does *not* apply to exams, meetings, etc.

3 pm – 4 pm

really means

*3pm – 4pm*

# Student Portal

<https://ethz.ch/students/en.html>

**ETH** zürich

Student portal

News

Studies

Doctorate

Continuing Education

Advice

Service

Careers

Campus



**Studies overview**

**Administrative**

**Financial**

**Courses**

**Performance assessments**

General

Semester invoice

Course Catalogue

Types of examination

Study-specific

Scholarships

Web-based platforms

Continuous Performance Assessments

International students

Loans

Lecture recordings

Examination levels

Solidarity fund

Teaching: Evaluation

Examination scheduling

See overview

See overview

See overview

Study abroad

Student Project House

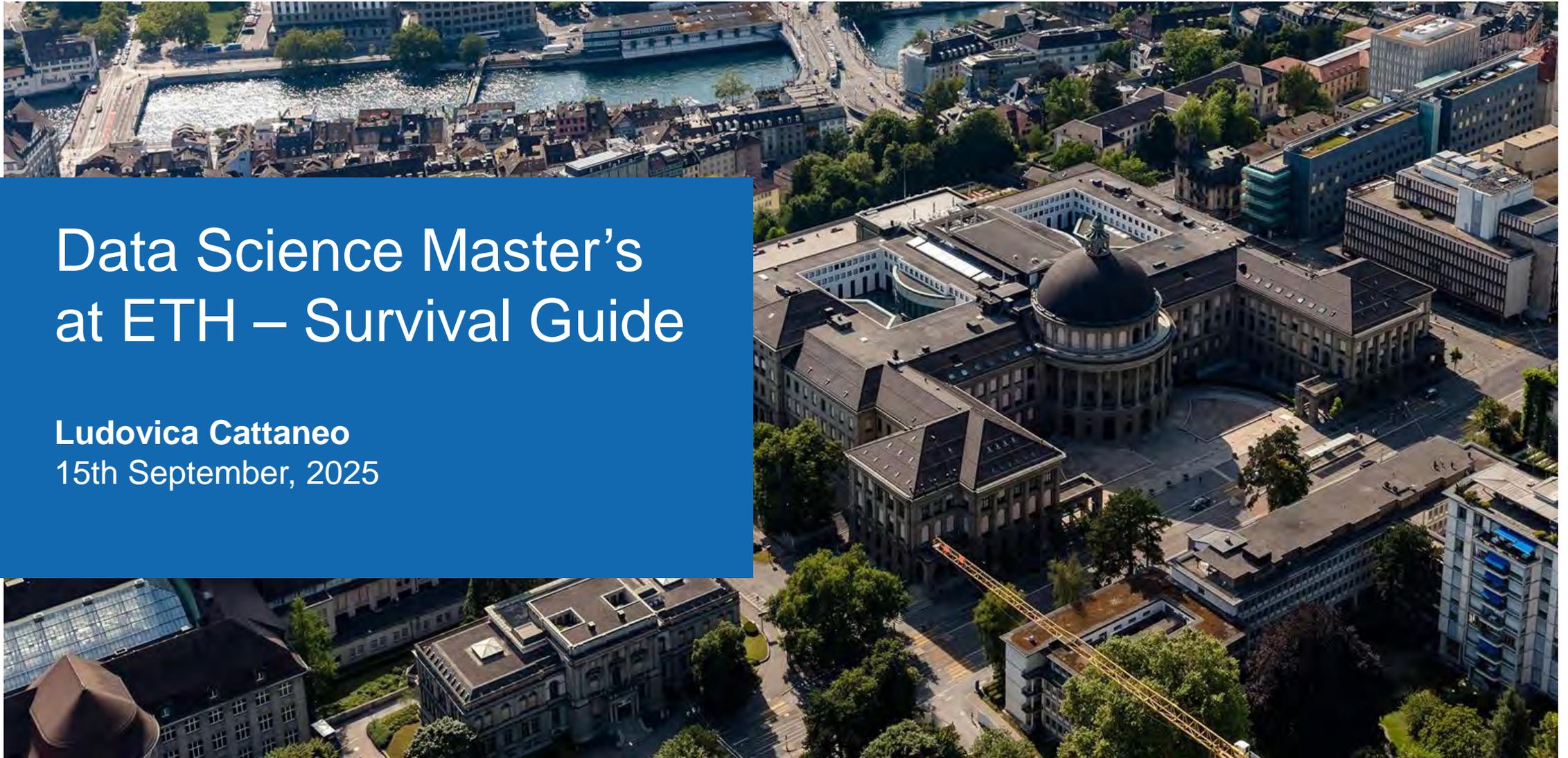
Degree programmes

Co-determination

**All the best for your studies**

# Data Science Master's at ETH – Survival Guide

**Ludovica Cattaneo**  
15th September, 2025



# DISCLAIMER

The following tips and tricks are based on my experience. Please reach out to others and gather their opinions for a more balanced perspective!

# About me

- Hi! I am Ludovica
- Italian - originally from Rome
- Bachelor in Mathematical Engineering at Politecnico di Milano
- Currently finishing my Master in Data Science (my thesis deadline is in two weeks :o)
- Teaching Assistant for Big Data and Big Data for Engineers for two whole years
- I bake a lot



Lecture Team

 Ghislain Fourny	 Zika Liu (head TA)	 Zuming Jiang (TA)	 Melisande Zonta-Roudes (TA)	 Sayan Goswami (TA)
 Ethel (AI model student)	 Alexandre Iskandar (student TA)	 Christopher Zanoli (student TA)	 Ludovica Cattaneo (student TA)	 Luca Renna (student TA)

# Find your community

1. Talk to people starting today
2. Imposter syndrome is normal in the beginning
3. Join VIS events to meet new people → check out [vis.ethz.ch](https://vis.ethz.ch)
4. Find a place to study at ETH that you like
5. Use ASVZ to participate in sports you like or go to the gym
6. If you are interested in building your own thing, check out the SPH

Life at ETH  
sometimes looks  
like this



How the „bar evening“ is going



# Finding a place in Zürich

- Connections are very important → ask everyone you know
- Good resources → StudentVillage, LivingScience, JUWO, WOKO, WFSS
- For questions about housing, contact ETH Housing Office ([wohnen.ethz.ch](https://www.wohnen.ethz.ch))
- Do not hesitate to also try Facebook groups for students housing (sometimes the listed flats are scams so always visit in person)
- You can get very cheap furniture on Ricardo, Tutti, Facebook Marketplace, and Telegram



# Getting around

- PubliBike for getting around Zürich on a bike → very cheap but it will be cold in winter
- Public transport for the city
- Get a HalbTax (Half-Fare) if you plan to travel at all in Switzerland
- If you are under 25 you can get a Night GA too
- E-Link to commute between Zentrum Campus and Hönggerberg Campus



# My culture shocks

- **Everything** closes on Sundays except inside train stations
- Restaurants close very early in the evening → most by 10pm
- Everything is so expensive → eating and drinking at home is the best
- Children walk to school on their own at any age
- If you walk in any direction from Zürich, you will be surrounded by fields and farm animals
- Cars will stop for everyone at crossings but trams for **no one**



# General information

## Events:

- If you want to go to Polyball buy your tickets as soon as they are out <https://polyball.ch>
- Another party (cheap for new students) is ESF <https://esf.ethz.ch>
- Every year in August you can go to the Street Parade
- Don't miss out on Christmas markets
- Switzerland is gorgeous in summer, and you will be able to hike and swim in lakes and rivers

## Food:

- ETH and UZH publish their mensa menus online → check before eating
- If you want to spend a bit more Lemon Grass is delicious, and Züri Bistro stays open on weekends
- Bring your Legi around, it might lead to discounts!

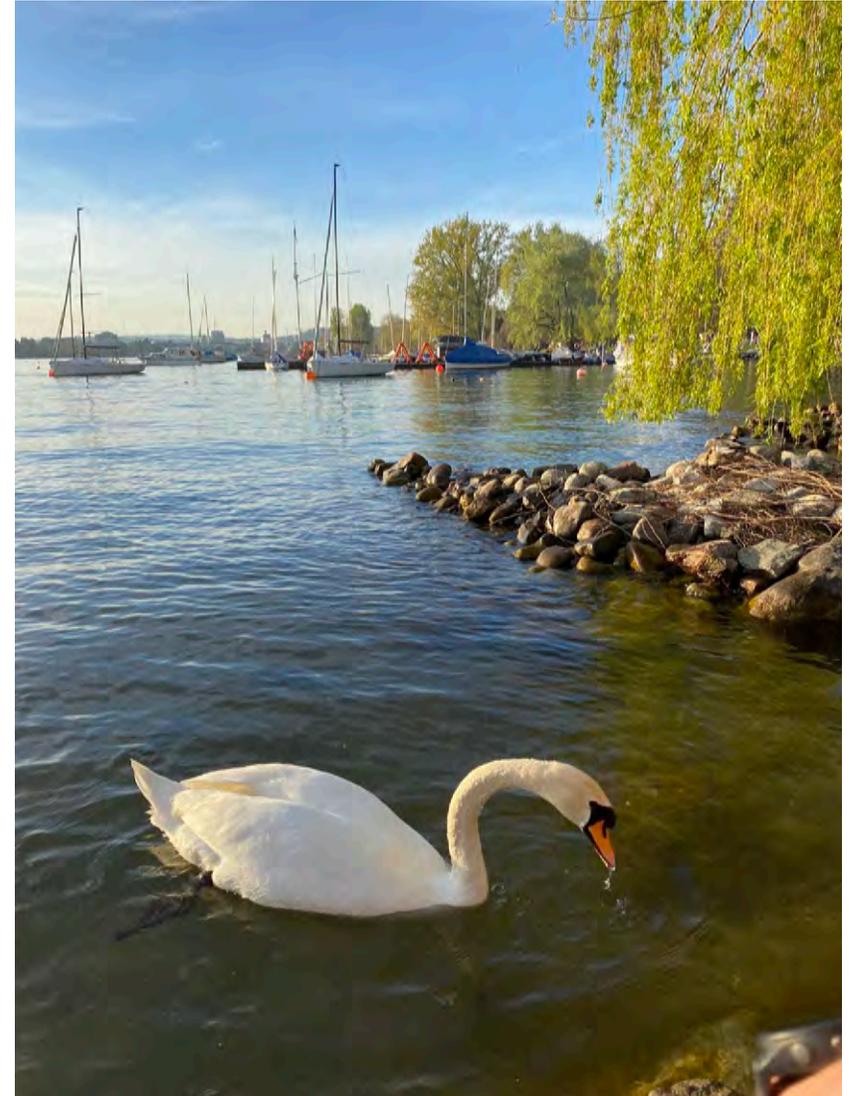


# Advice related to study program

- Take advantage of the program's flexibility by taking a semester off for an internship or adjusting your course load each semester
- There is no rush → don't overload your first semester wait to see how it goes, and you can adjust after that
- Ask for course advice and check reviews before committing
- Some courses run out of places fast → enrol as soon as you can, you can always deregister if you change your mind
- For this exact reason waiting lists usually move quite fast so do not lose hope
- Choose your project partners carefully
- If you want to work you can look into being a teaching assistant or a research assistant or work part time with ETH Juniors
- Project based courses often lead to more research/theses/PhDs so pick directions you are actually interested in
- Consider the UZH language courses

# TL;DR

- Try to find your people, ETH is tough if you are alone
- Participate in events whether organized by VIS, ETH or the city itself
- Explore the city and Switzerland for cheaper with the half fare and night GA
- Ask for help and be kind → nobody knows what they are doing, and nobody expects you to know everything
- Take courses in different directions so you can find what you like
- Big projects help you decide if academic life is for you or if industry/start up is better



# Welcome to ETH Zürich!

Wishing you a great start,  
Ludovica



# CSNOW - Network of Women in Computer Science ETH

Sophia Boyer and Sarah Kuhn

Zurich, 15.09.2025

# Unser Team



**Prof. Dr. Julia Vogt**

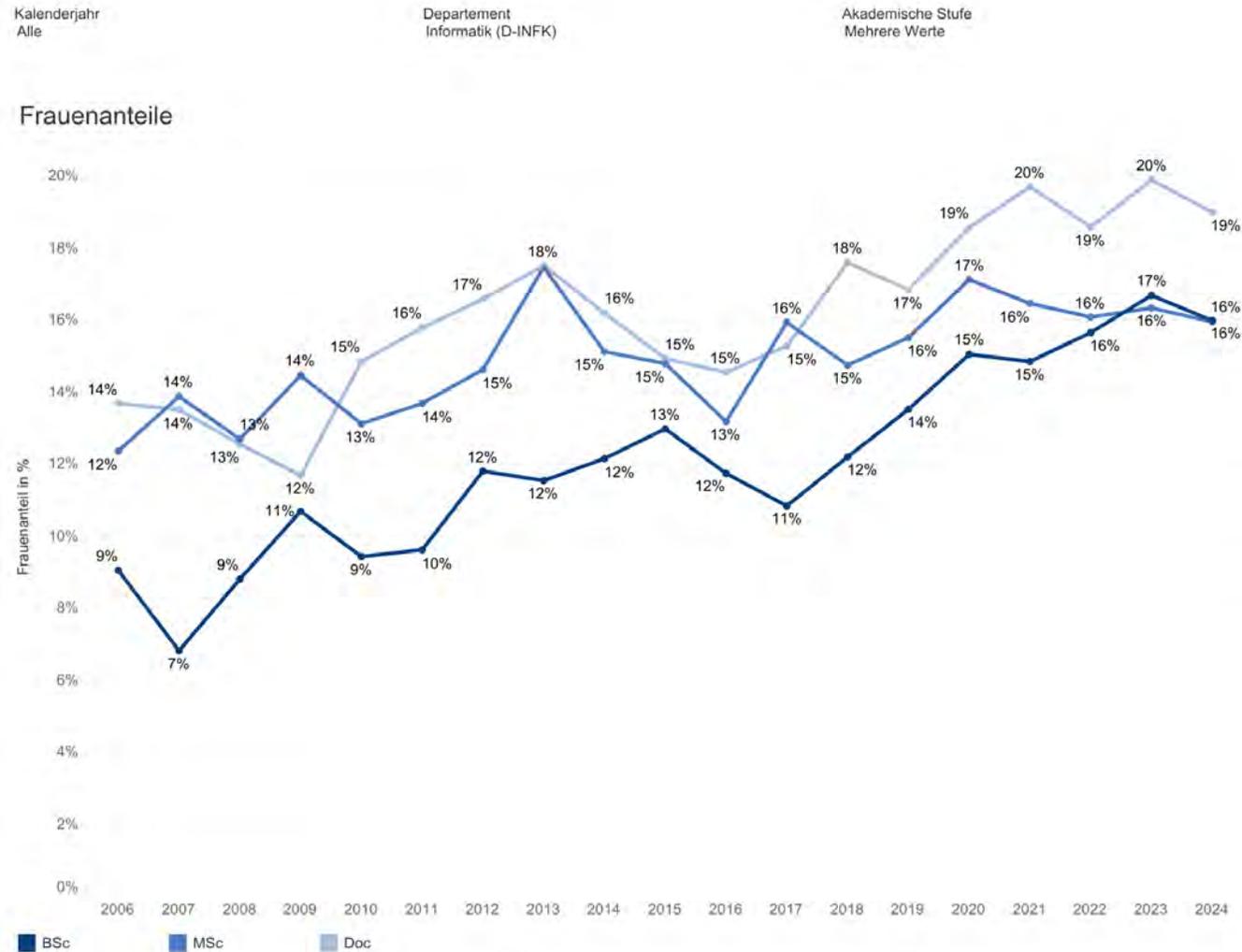


**Co-leaders**

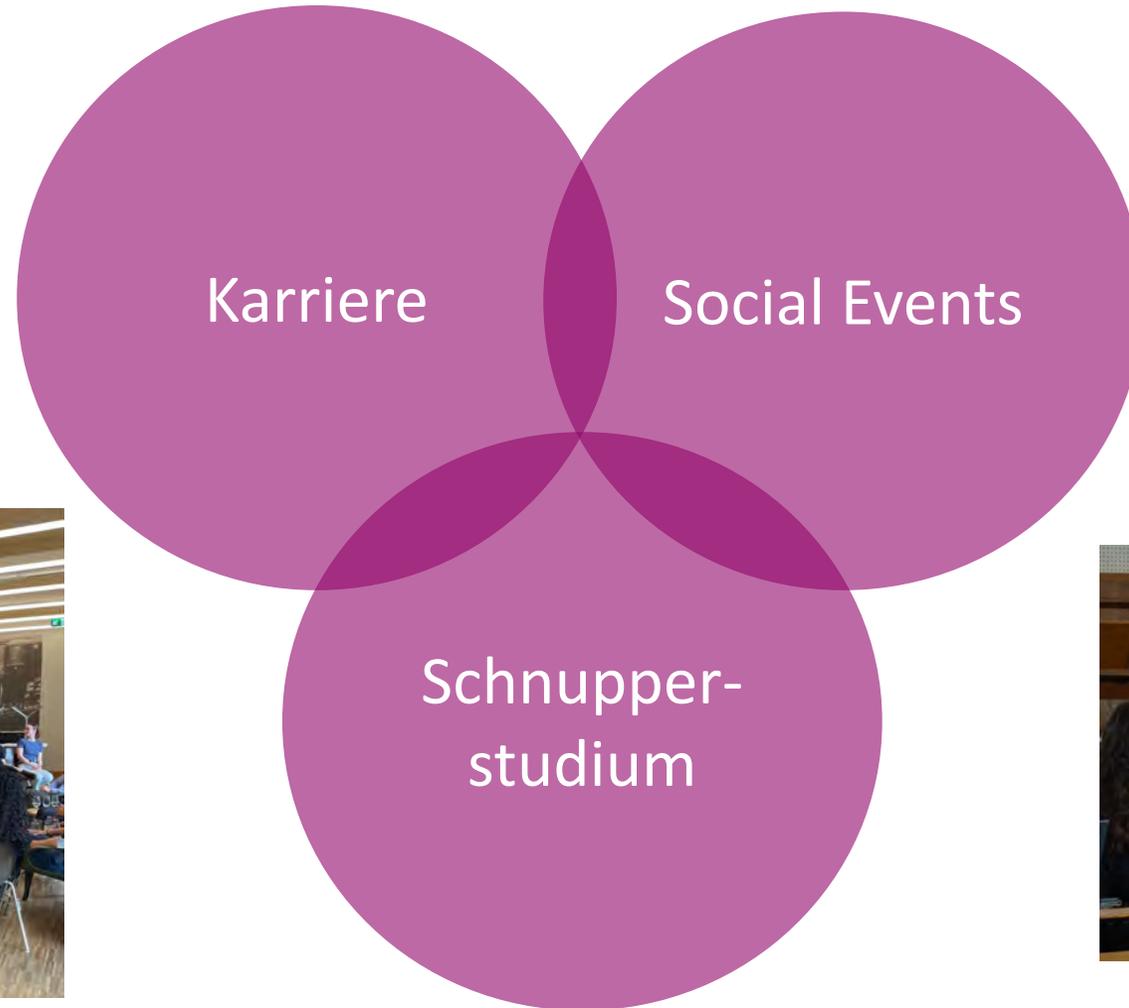


**Student TAs**

# Herausforderungen



# Unsere Events



# Karriere

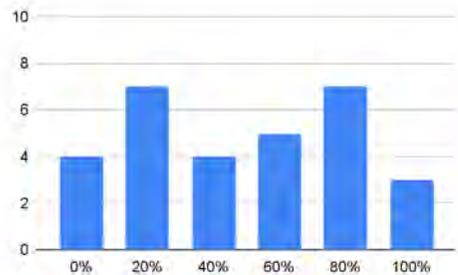
- Firmen-Events
- Career Panels
- Diskussionen mit Professor:innen
- Firmen News in Newsletter



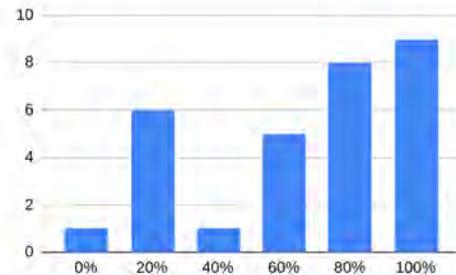
# Schnupperstudium: Mehr Frauen im Informatik Studium

- Für Gymnasiastinnen
- 2 mal pro Jahr
- Rund 30 Teilnehmerinnen
- Wahrscheinlichkeit Informatik zu studieren:

Vorher



Nachher



# Social Events

- Semester-Apéro 2. SW
- Mentoring Event mit VIS 3. SW
- Schlittschuh fahren
- Runclub
- Movie Night
- ...



CSNOW  
**WOMEN'S MEETUPS** MASTERS: Tues, 12.03  
BACHELORS: Thurs, 14.03  
BQM | 18:00  
Come and meet fellow female CS students over free drinks on us!



Future Computing Laboratory



Design Your Own Hardware





# CSNOW

Network of Women in Computer Science

Website



Newsletter



Broadcast channel



Social Media





Association of Computer Science Students at ETH

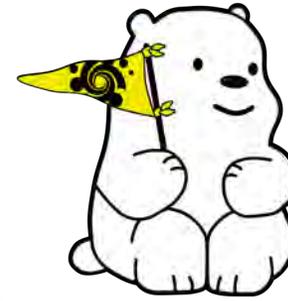
Your Student Association; from Students, for Students

Jonas Blank  
President



## Who we are

- Students like you (+ Björn, our polar bear mascot!)
- Volunteers, who want to do fun stuff alongside their studies
- Kind people, who will stand up for you!





Events

party, organize, enjoy



MASTER'S WELCOME WEEKEND

V O I S 2025



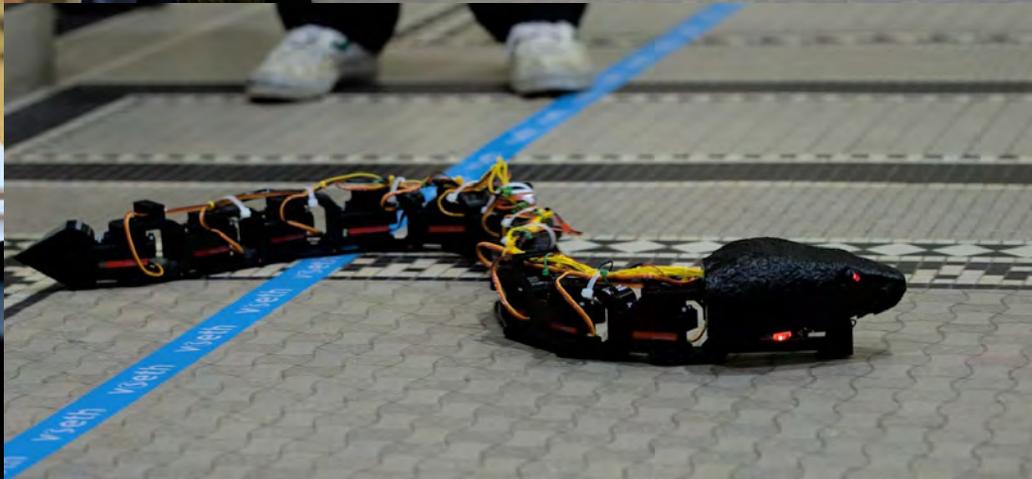
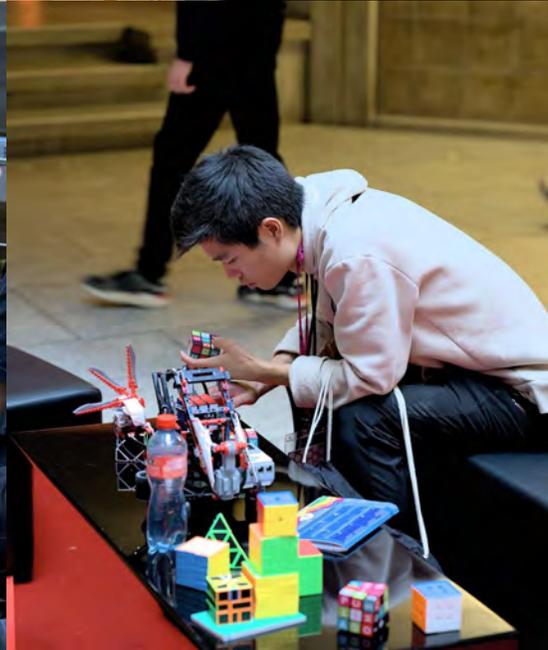
19th to 21st of September

CHF 60.-











# Important Events in HS25

- 19. - 21.09. Master Welcome Weekend
- 22.09. VIS4U
- 25.09. VSETH Erstsemestrigenfest (ESF)
- 29.09. VIS General Assembly (GA)
- 03.10. Bytecrash Party
- 08.10. Dumpling Dinner
- 11.10. VIScon
- 13.10. - 17.10. Heimwoche
- 30.10. Midweek Mexican Madness
- 31.10. - 01.11. Björn CTF
- 28.11. FIGUGEGL
- 19.12. Winterbrunch





Coffee

2x pro Tag!



## Common Room – free Coffee and Beer

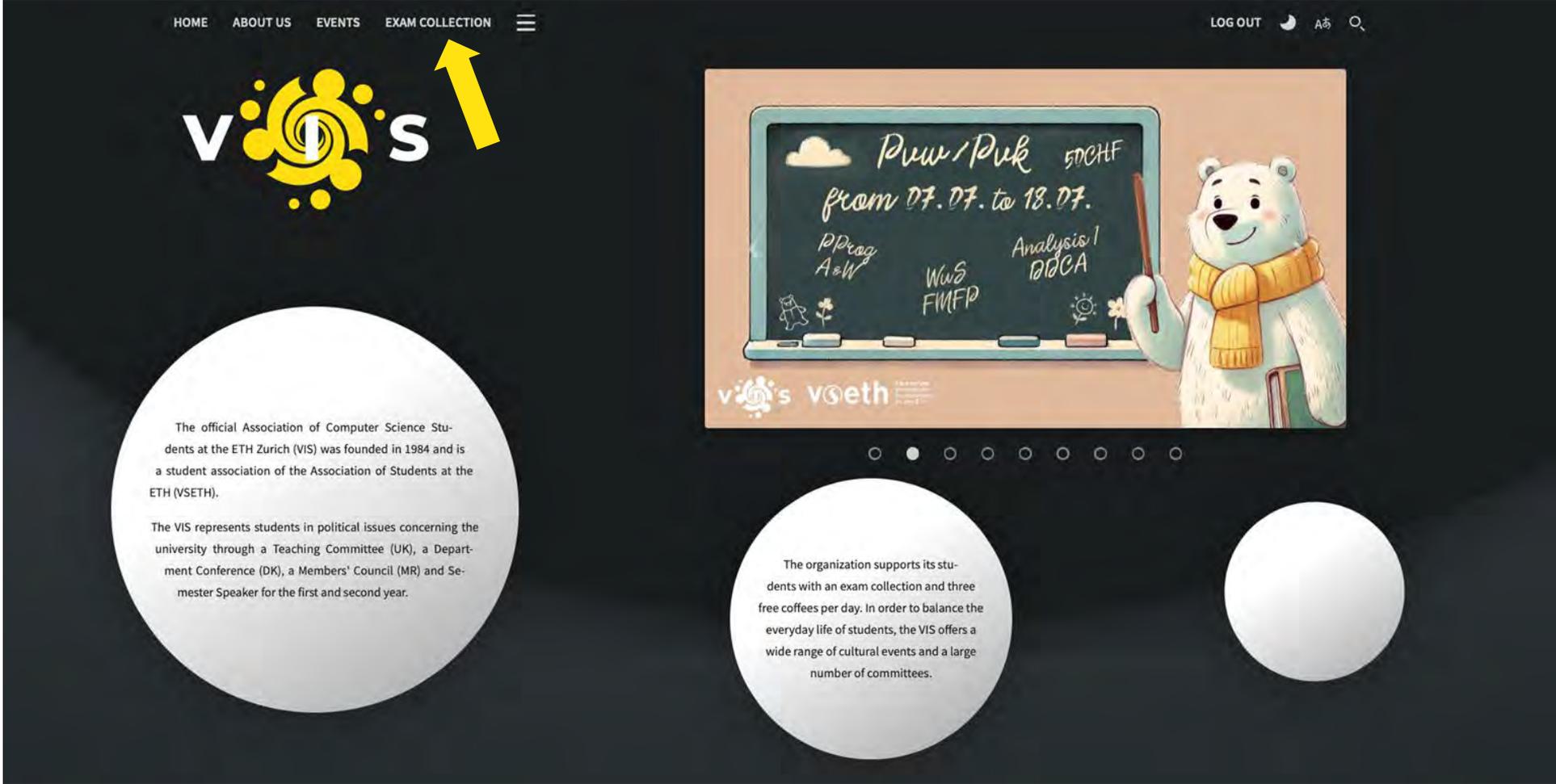


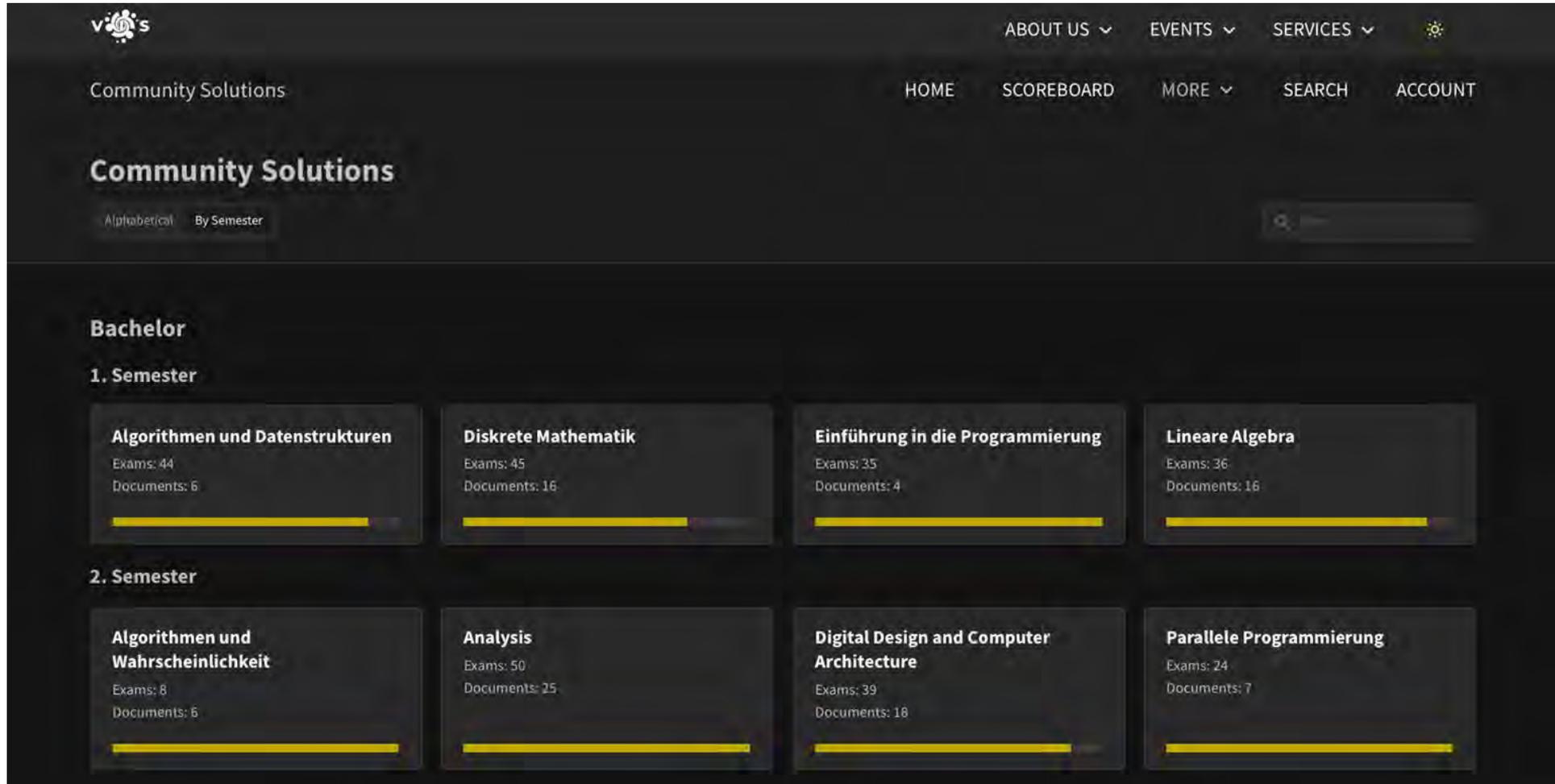


Exam Collection

[exams.vis.ethz.ch](https://exams.vis.ethz.ch)

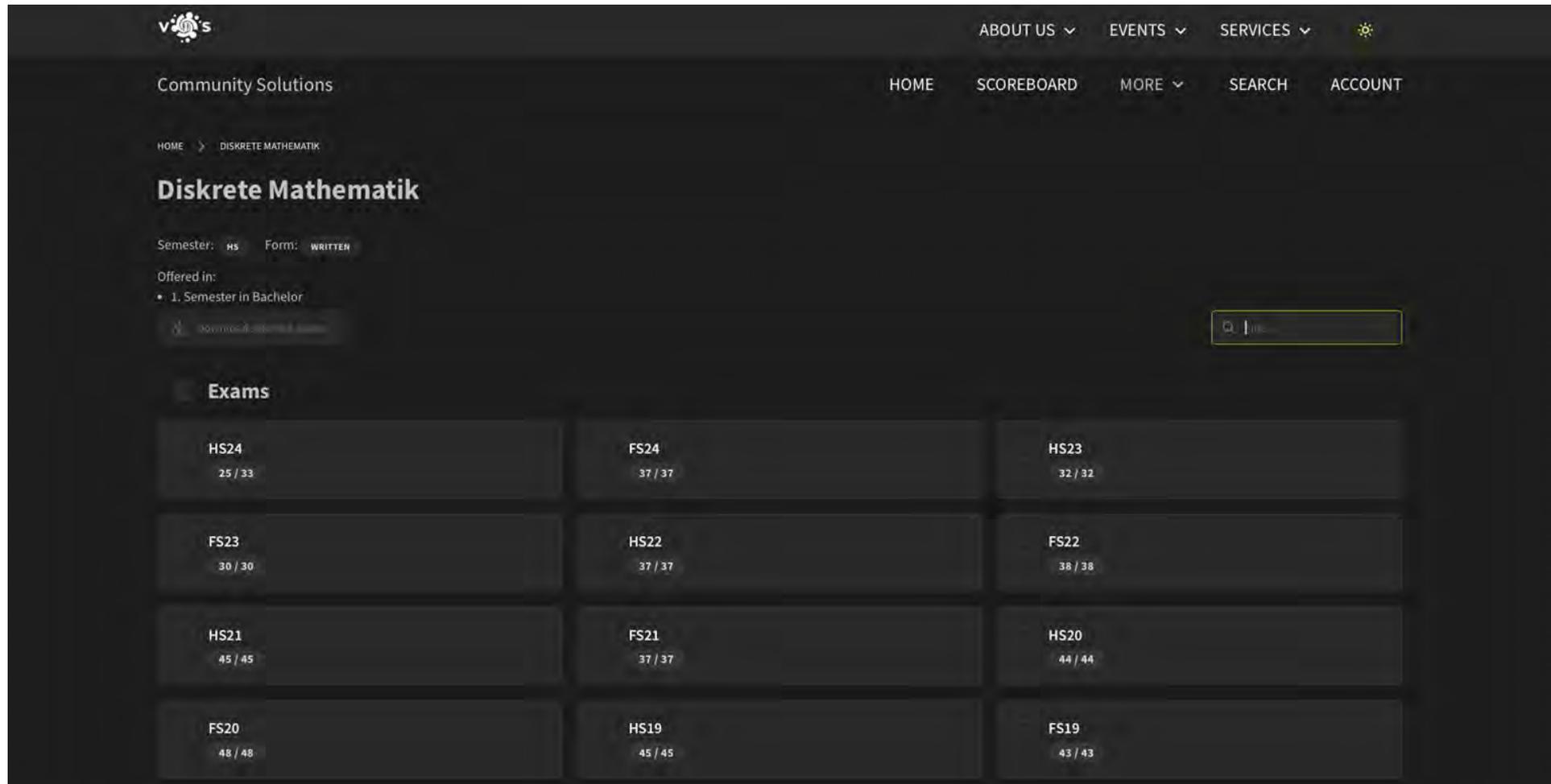






The screenshot shows the 'Community Solutions' website interface. At the top, there is a navigation bar with the VIS logo on the left and menu items: ABOUT US, EVENTS, SERVICES, HOME, SCOREBOARD, MORE, SEARCH, and ACCOUNT. Below the navigation bar, the page title 'Community Solutions' is displayed, followed by sorting options 'Alphabetical' and 'By Semester'. The main content is organized into two sections: '1. Semester' and '2. Semester'. Each semester section contains four exam collection cards, each with a title, exam count, document count, and a progress bar.

Semester	Exam Collection	Exams	Documents
1. Semester	Algorithmen und Datenstrukturen	44	6
	Diskrete Mathematik	45	16
	Einführung in die Programmierung	35	4
	Lineare Algebra	36	16
2. Semester	Algorithmen und Wahrscheinlichkeit	8	6
	Analysis	50	25
	Digital Design and Computer Architecture	39	18
	Parallele Programmierung	24	7



The screenshot shows the website interface for 'Diskrete Mathematik' exams. The page includes a navigation bar with 'HOME', 'SCOREBOARD', 'MORE', 'SEARCH', and 'ACCOUNT'. Below the navigation, the course title 'Diskrete Mathematik' is displayed, along with semester and form information. A search bar is present on the right. The main content area is titled 'Exams' and contains a grid of 12 exam entries, each showing a course code and a score out of a total.

Exam Code	Score
HS24	25 / 33
FS24	37 / 37
HS23	32 / 32
FS23	30 / 30
HS22	37 / 37
FS22	38 / 38
HS21	45 / 45
FS21	37 / 37
HS20	44 / 44
FS20	48 / 48
HS19	45 / 45
FS19	43 / 43



**Task 2. Number Theory** ..... 23 Points

a) Short Questions. Each correct answer gives 2 points. No justification is required. (4 Points)

1.) Compute  $R_{11}(9^{2024})$ .

---

**Albert Cerfeda** @acerfeda · 10 months ago 13

$R_{11}(9^{2024}) = R_{11}(9^{R_{11}(2024)}) = R_{11}9^4 = R_{11}(-2^4) = R_{11}(16) = 5$

+ Add Comment    ... More

---

**Marius Mayer** @marmayer · about 1 year ago 9

**Answer**

Useful information:

- $a^{a(n)} \pmod n = 1$
- $\varphi(11) = 10$
- $a^{a(11)} \pmod{11} = R_{11}(a^{a(11)}) = R_{11}(a^{10}) = 1$
- $9^2 \pmod{11} \equiv 81 \pmod{11} \equiv 6 \pmod{11}$

Therefore,

$R_{11}(9^{2024}) = R_{11}((9^{202})^{10} \cdot 9^4) = R_{11}(9^{R_{11}(2024)}) = \dots$

+ Add Comment    ... More

Add Answer                      Hide Answers



University Politics

HoPoKo



## University Politics

- We represent your interests with the department.
- Lecture Feedback
- Close contact to Head of Department and Directors of Studies
- Sounding board for new ideas
- Find help for your problems



# Becoming a member and more...



## How to become a Member

On your myStudies select the VSETH membership under voluntary contributions.

**Voluntary contributions** 

Note: If membership is selected, the personal and address data required for member administration and other club activities will be forwarded to the respective club.

	Yes	No
Solidarity fund for foreign students (CHF 5.-)	<input checked="" type="radio"/>	<input type="radio"/>
SOSETH membership (CHF 5.-)	<input type="radio"/>	<input checked="" type="radio"/>
VSETH membership (CHF 10.-; for doctoral students CHF 35.-)	<input checked="" type="radio"/>	<input type="radio"/>

# Mentoring Event

**When: 23.09.2025  
12:00**

**Sign up:**



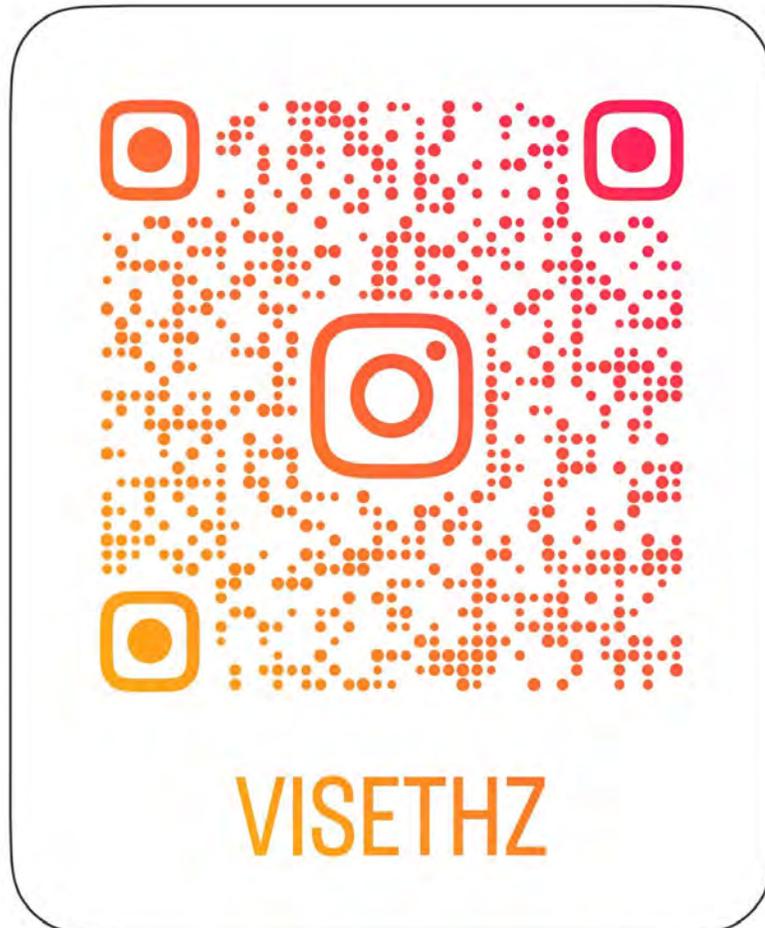
**Where: StUZ**

## Participation is not enough? Get involved!

- Come to the General Assembly (it's held in English)
- Join one of our committees
- Help at events
- Join one of the university politics meetings and participate in the discussion

## VIS Socials

[instagram.vis.ethz.ch](https://www.instagram.com/vis.ethz.ch)



[whatsapp.vis.ethz.ch](https://www.whatsapp.com/join/group/vis.ethz.ch)

## VIS

WhatsApp group



## Further Information

- Website: [vis.ethz.ch](https://vis.ethz.ch)
- Ask the board: [vis@vis.ethz.ch](mailto:vis@vis.ethz.ch)
- Ask the MoEB committee: [moeb@vis.ethz.ch](mailto:moeb@vis.ethz.ch)
- Ask your tour guide



The federal government wants to cut the budget for education. This will result in:

- a **doubling of tuition fees** for Swiss citizens and foreign nationals with Swiss education
- a **quadrupling of fees** for foreign students
- a massive weakening of equal opportunities
- a threat to the quality of education

**We put up a fight!**

# RALLY 1. OCT

**14:00 Sechseläutenplatz Zürich**

**17:00 Bundesplatz Bern**

[VSS | UNES | USU]

VSS | Verband der Schweizer Studierendenschaft  
UNES | Union des Etudiant-e-s de Suisse  
USU | Unione Svizzera degli e delle Universitari-e

**vse**eth | Verband der Studierenden an der ETH

*bezahlbar-studieren.ch*

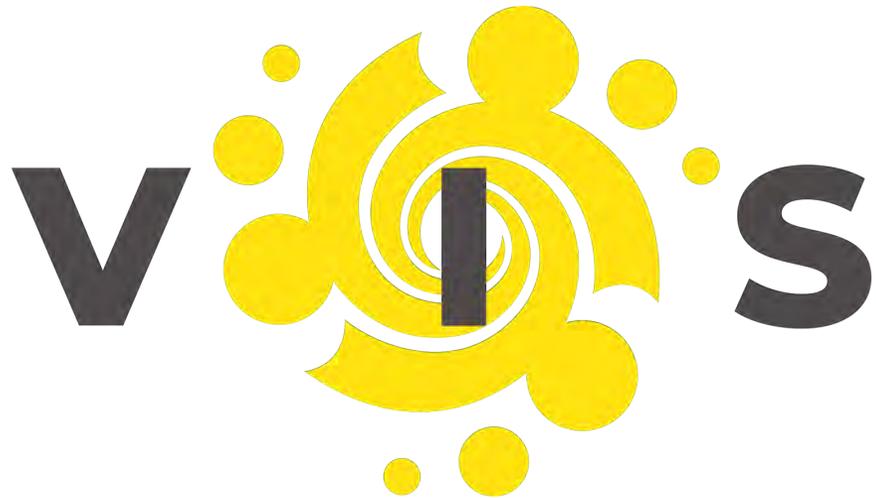


## Up next: Campus Tour & BBQ





Thank you!



**Fachverein**  
Verband der  
Studierenden  
an der ETH

[vis@vis.ethz.ch](mailto:vis@vis.ethz.ch) | [www.vis.ethz.ch](http://www.vis.ethz.ch)

Verein der Informatikstudierenden an der ETH Zürich

**DINFK**

