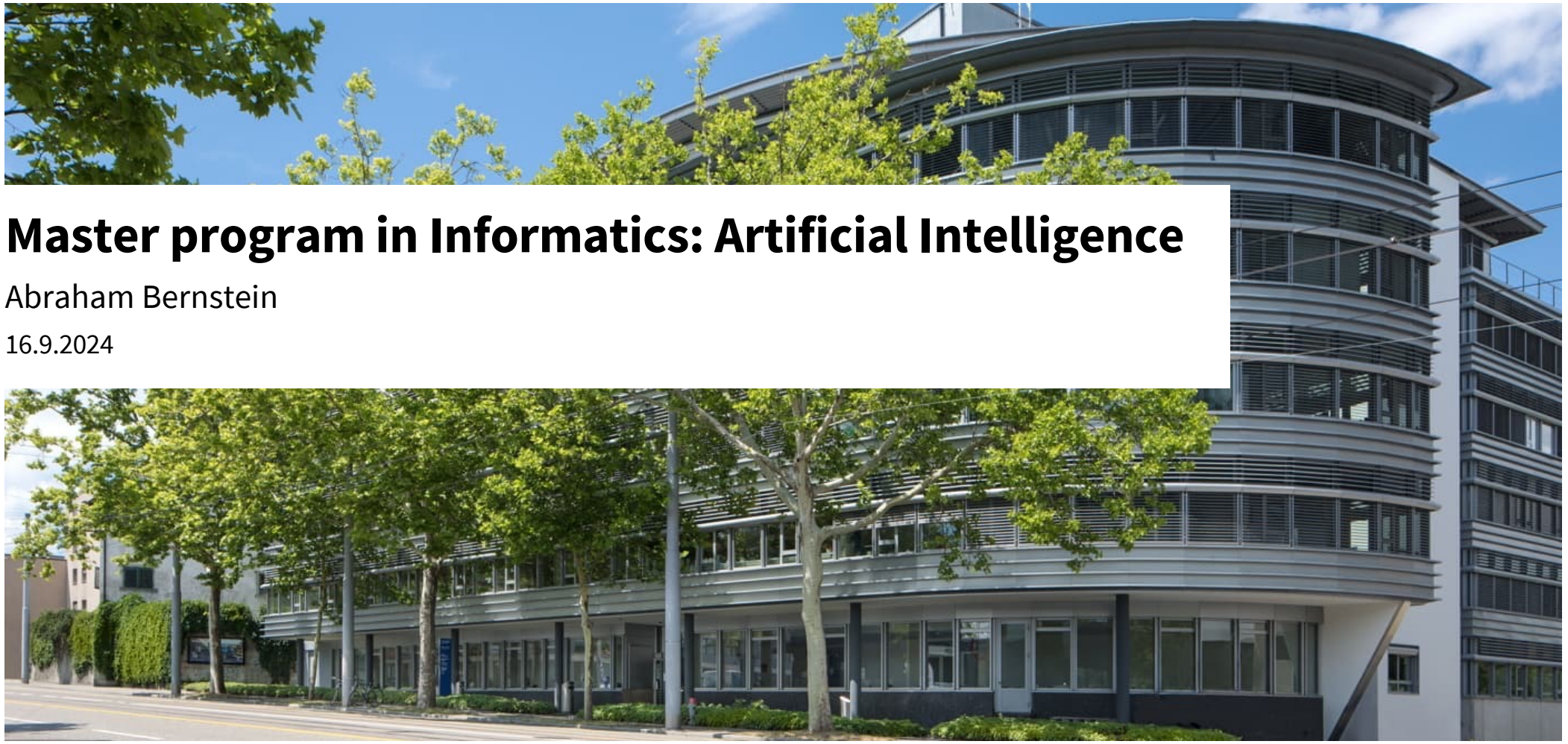
Universität Zürich[UZH]

Department of Informatics



Master program in Informatics: Artificial Intelligence

Abraham Bernstein

16.9.2024

Contents

IfI: The Department of Informatics

— Founded in 1970 (IfI = Institut für Informatik)
— Part of the Faculty of Business, Economics and Informatics
— Focus on human-centered informatics
— 18 Professors, 130 PhD students and Post-Docs
— 500 Bachelor’s students
— 600 Master’s students
— Campus Oerlikon

You!

IfI Professors

Alberto Bacchelli

Zurich
Empirical
Software Engineering
Team

Jürgen Bernard

Interactive
Visual
Data
Analysis Group

Abraham Bernstein

Dynamic and
Distributed
Information
Systems Group

Michael Böhlen

Data-
Base
Technology
Group

Thomas Fritz

Human
Aspects of
Software
Engineering

Harald Gall

Software
Evolution and
Architecture
Lab

Manuel Günther

Artificial
Intelligence and
Machine
Learning Group

Anikó Hannák

Social
Computing
Group

Elaine Huang

Zurich
People
and
Computing Lab

Dan Olteanu

Data
Systems and
Theory Group

Renato Pajarola

Visualization and
Multi-
Media
Lab

Giorgia Ramponi

Autonomous Sequential
Learning and
Predictive
Intelligence Lab

Davide Scaramuzza

Robotics and
Perception
Group

Gerhard Schwabe

Information
Management
Research
Group

Sven Seuken

Computation and
Economics Research
Group

Burkhard Stiller

Communication
Systems
Group

Claudio Tessone

Blockchain and
Distributed
Ledger
Technologies

Martin Volk

Computational
Linguistics

General Information Online

Dean's Office: https://www.oec.uzh.ch/en/studies.html

- Study Regulations, Admission, Enrollment, Changing Programs, Course Booking, Important Dates, Petitions/Appeals, …

IfI: https://www.ifi.uzh.ch/en/studies/msc-info.html

- Specific to Informatics: Fact Sheets (legally binding!), Topics/Professors, Tutors/TAs, also these slides for later reference

Please read the regulations and fact sheets!

The presentations held at the **Faculty's Master Welcome Day** are available from:
https://www.oec.uzh.ch/en/studies/events/mwd.html

Structure of the MSc Programs

All programs comprise…

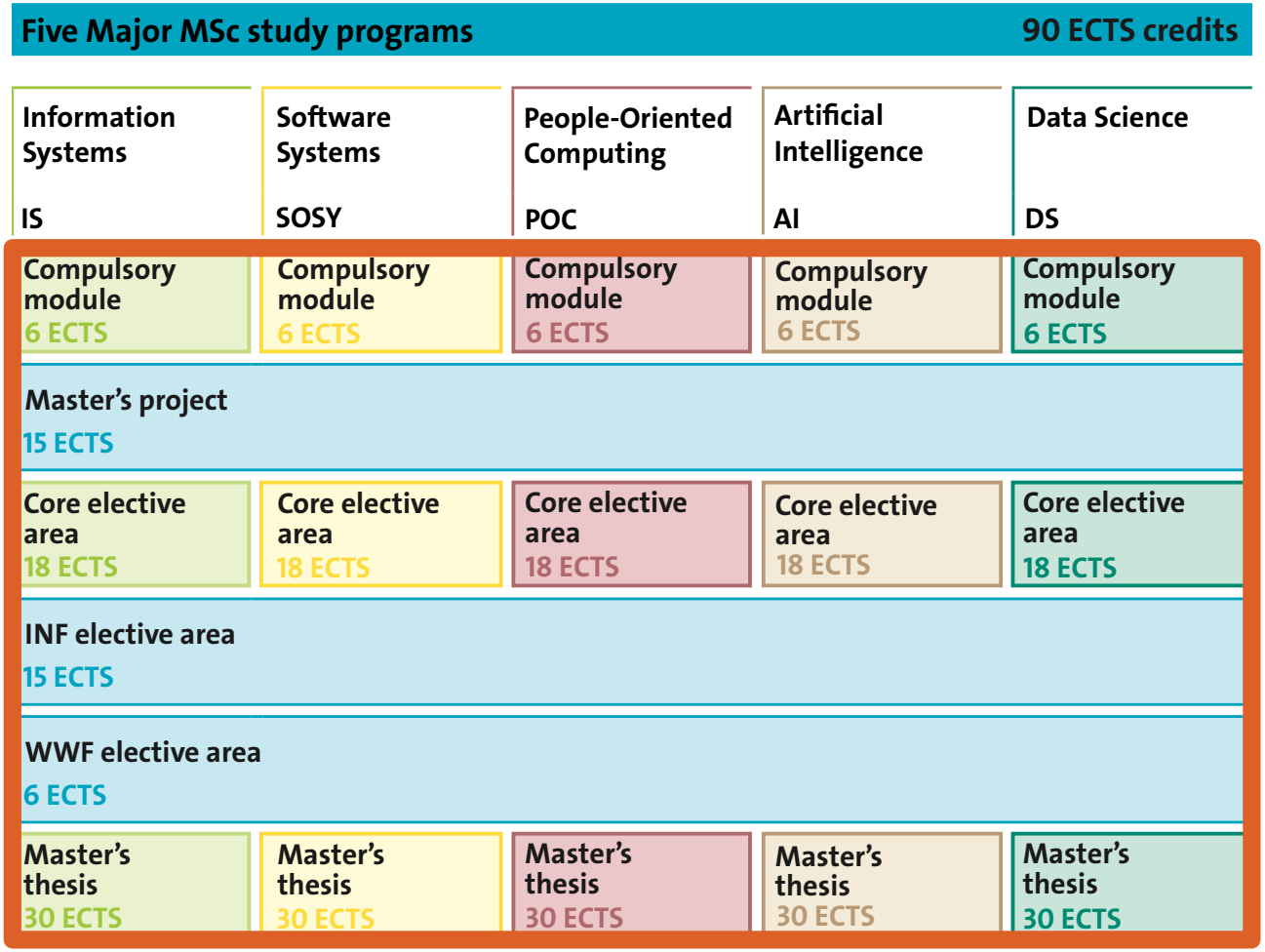
— a compulsory module

— a Master's Project (group work!)

— modules from core/elective areas

— a Master's Thesis at the end

More on these components on the next slides…



Compulsory Module: Advanced Topics in Artificial Intelligence

This course

Time: Wednesdays 8:15 -12:00h
Room: BIN 1.B.01

Grading

— Final Exam: Wednesday, 26.01.2023, 14:00-16:00 BYOD! -> Location to be announced

— Practice Exam (TBA)

— Assignments (20%)

— Active participation to the evaluation event on the 14.12. and 21.12.

Prerequisites

— General: Calculus, Linear Algebra, Probability Theory, Design and Analysis of Algorithms

— You have taken an intro class on AI (roughly, AIMA 4th Ed., chapters 1-18)

— You are familiar with basic Data Mining / Machine Learning techniques

Content

— Knowledge in AI, Large-scale AI, Collective Intelligence, AI & Society

Master's Project

The Master's Project…

— is a **group project** (= at least 2 students)

— is an **intensive and demanding** project worth 15 ECTS credits

— best time: During semester break

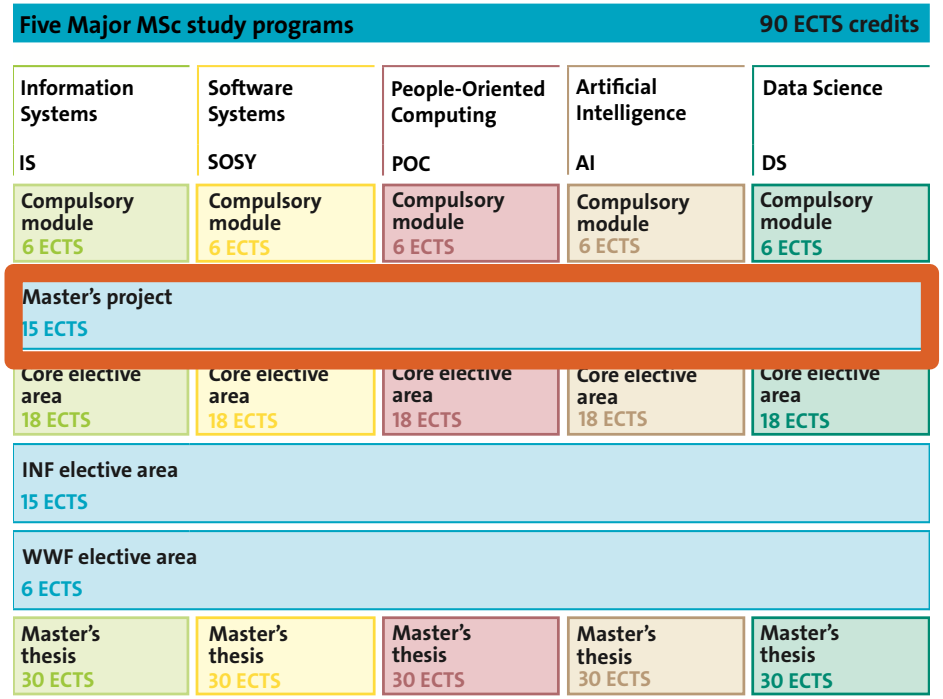
— max. 12 months to complete

— must be supervised by an IfI professor

➢ **Check the fact sheet!**

IfI organizes a **Master's Project Market** each semester

➢ Some open projects are presented and you can find peers



Elective Areas

Core elective area

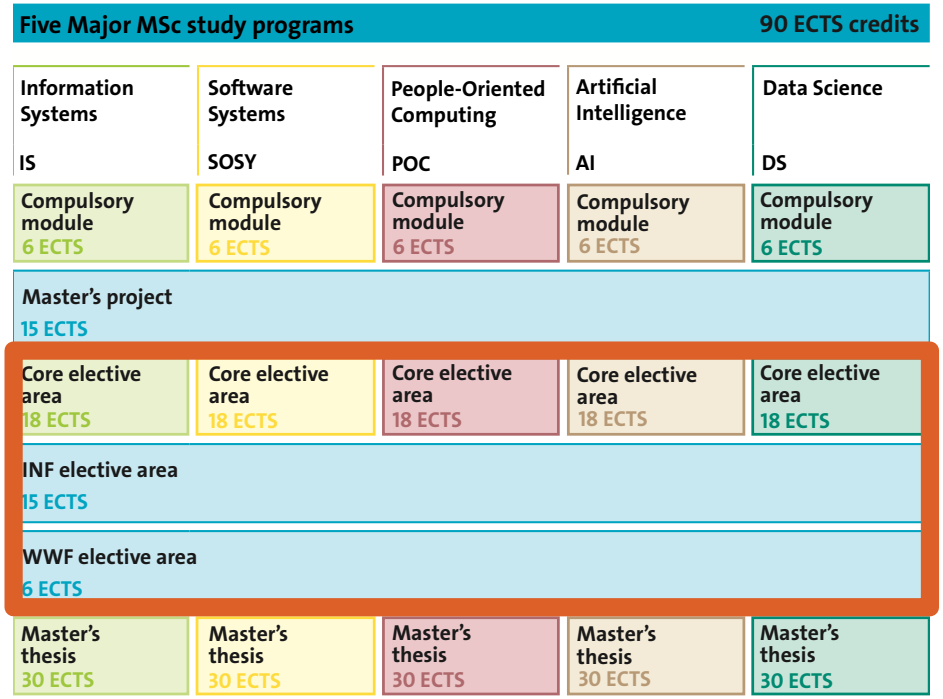
Specific to your Major study program (IS, SOSY, POC, AI, or DS).

INF elective area

All modules offered by IfI on the Master's level (definition in the Study Regulations, p. 31)

WWF elective area

All modules offered by WWF on the Master's level (definition in the Study Regulations, p. 31)



AI Major – Core Electives and Instructors

Advanced Machine Learning	Lena Jäger
Advanced Techniques of Machine Translation	Rico Sennrich
Algorithmic Game Theory and Mechanism Design	Sven Seuken
Combinatorial Algorithms	Alexander Souza
Computer Graphics	Renato Pajarola
Deep Learning	Manuel Günther
Essentials in Text and Speech Processing	Mathias Müller
Machine Learning for Natural Language Processing 1	Simone Clematide
Network Science	Claudio Tessone
Randomized Algorithms	Alexander Souza
Statistical Foundations for Finance (Mathematical and Computational Statistics with a View Towards Finance and Risk Management)	Marc Paolella
Vision Algorithms for Mobile Robotics	Davide Scaramuzza
Real Analysis I	Marc Paolella
Reinforcement Learning	Giorgia Ramponi

Master's Thesis

The Master's Thesis…

— must be written in your **Major area**

— is a **full-time endeavor** worth 30 ECTS credits (i.e., no significant side jobs or other study activities possible)

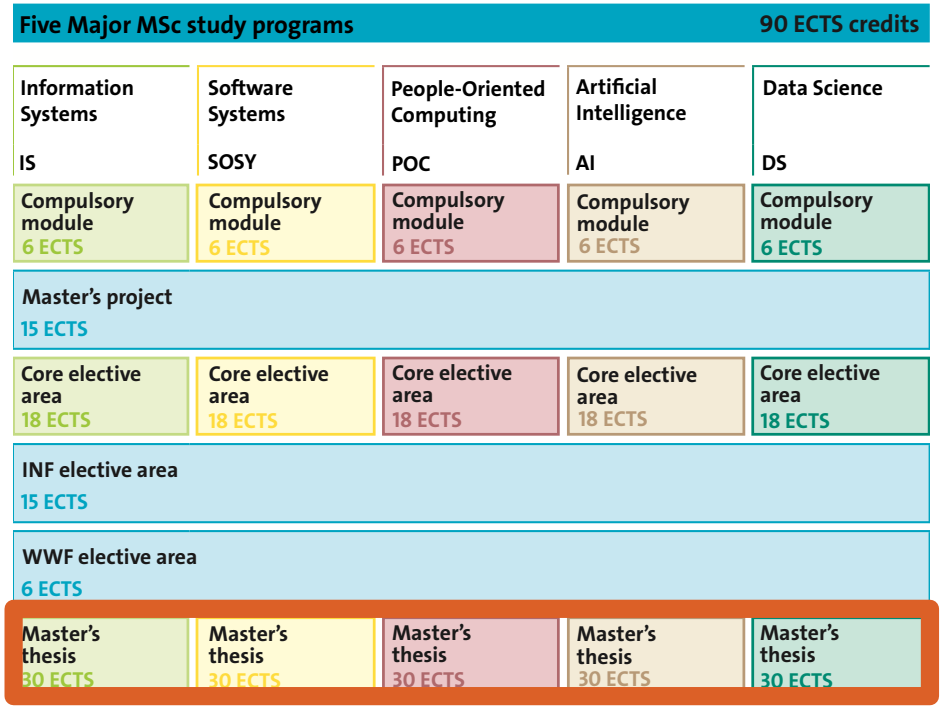
— max. 6 months to complete

— can only be started once the Master's Project has been successfully completed

— must be supervised by an IfI professor

➢ **Check the fact sheet!**

➢ Find topics on the IfI website (check the individual group pages) or contact the groups directly.



Further Modules

Seminar

— one seminar is mandatory

— recommended from 2nd semester

— check the Course Catalogue early and register for the seminar within the seminar's application deadline

➢ **Note: this deadline is shorter than the regular module booking deadline!**

Independent Study

— Optional module

➢ **Check the fact sheet!**

External Modules

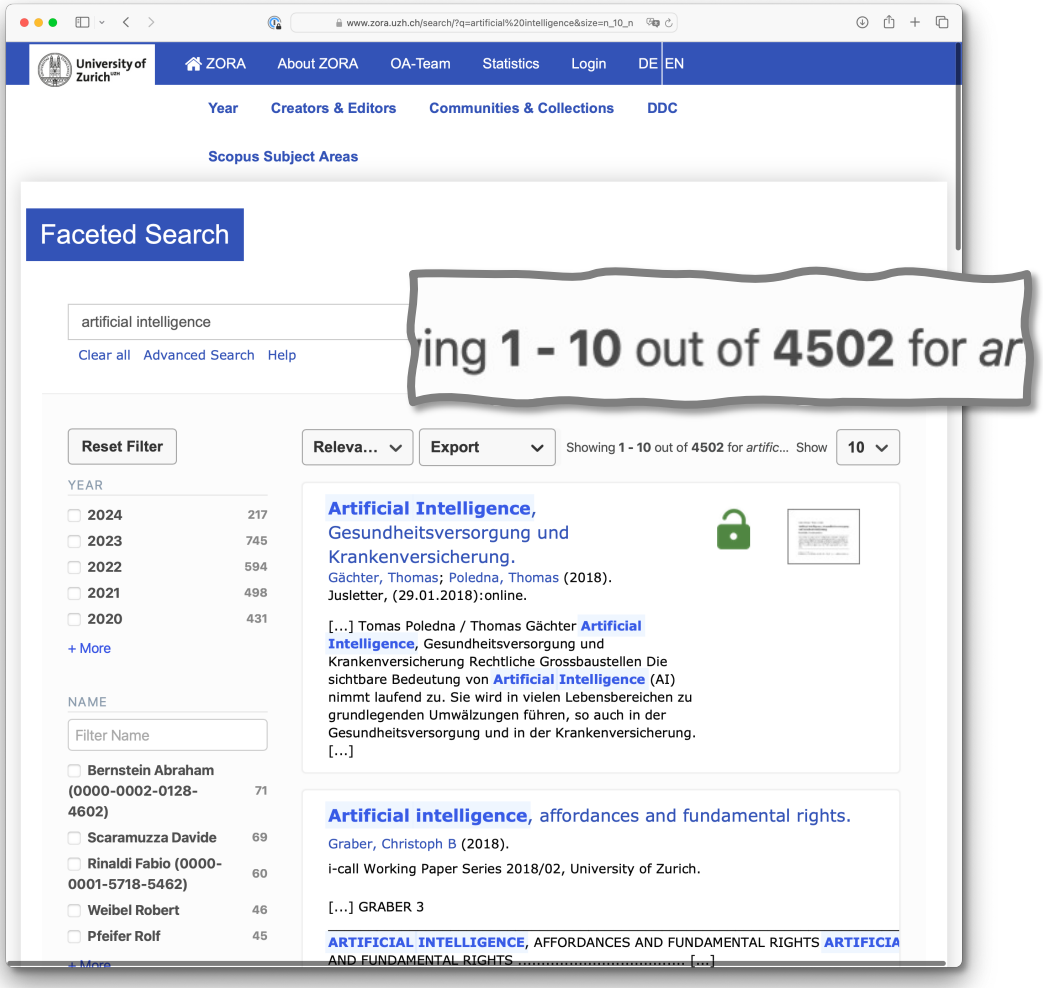
— ETH: https://www.oec.uzh.ch/en/studies/credits/external-eth.html

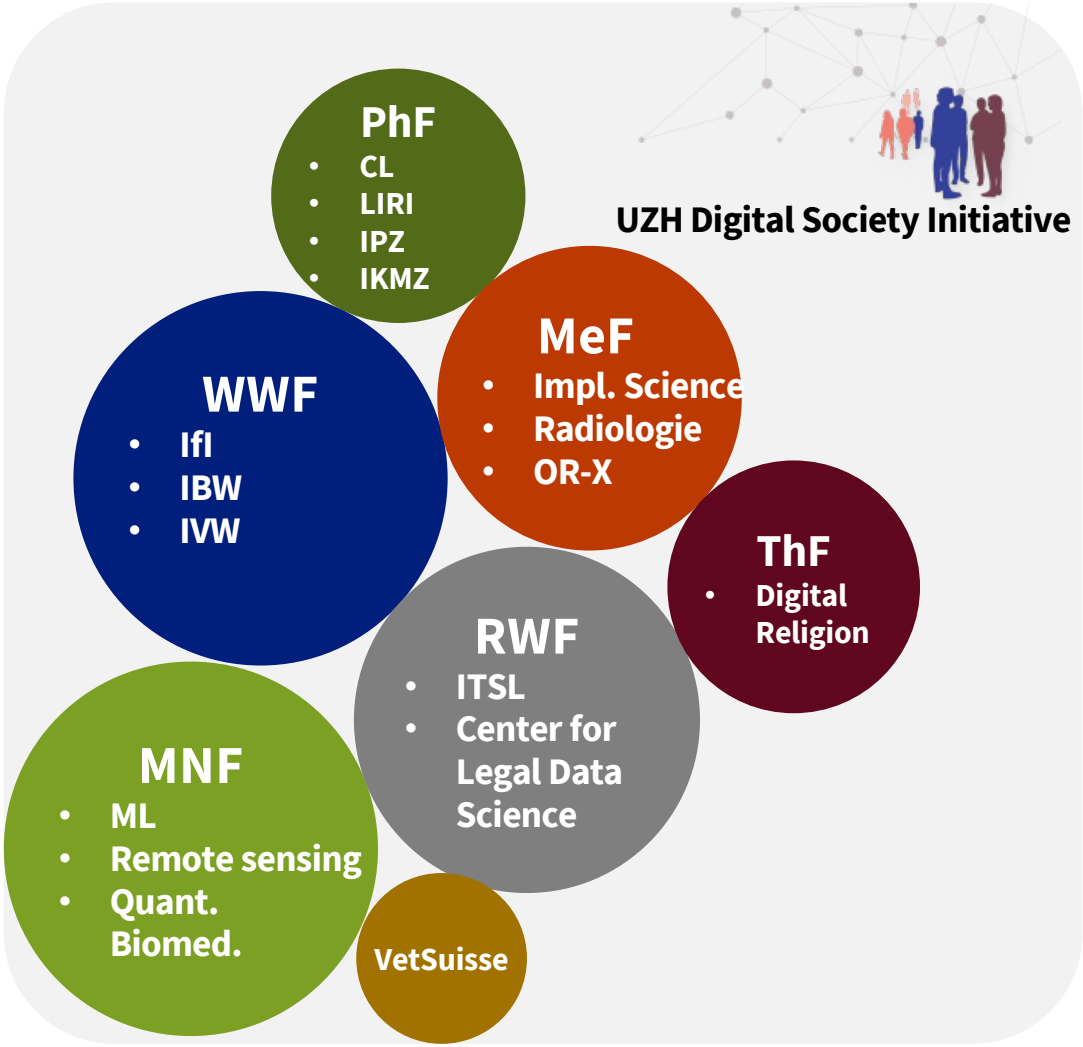
— Mobility within Switzerland: https://www.uzh.ch/cmsssl/en/studies/application/chmobilityout.html

— International exchange: https://www.int.uzh.ch/en/out.html

— Partner universities: https://www.oec.uzh.ch/en/international/engagement.html

AI at the University of Zurich





Minor

Available Minor programs are listed in the Course Catalogue:

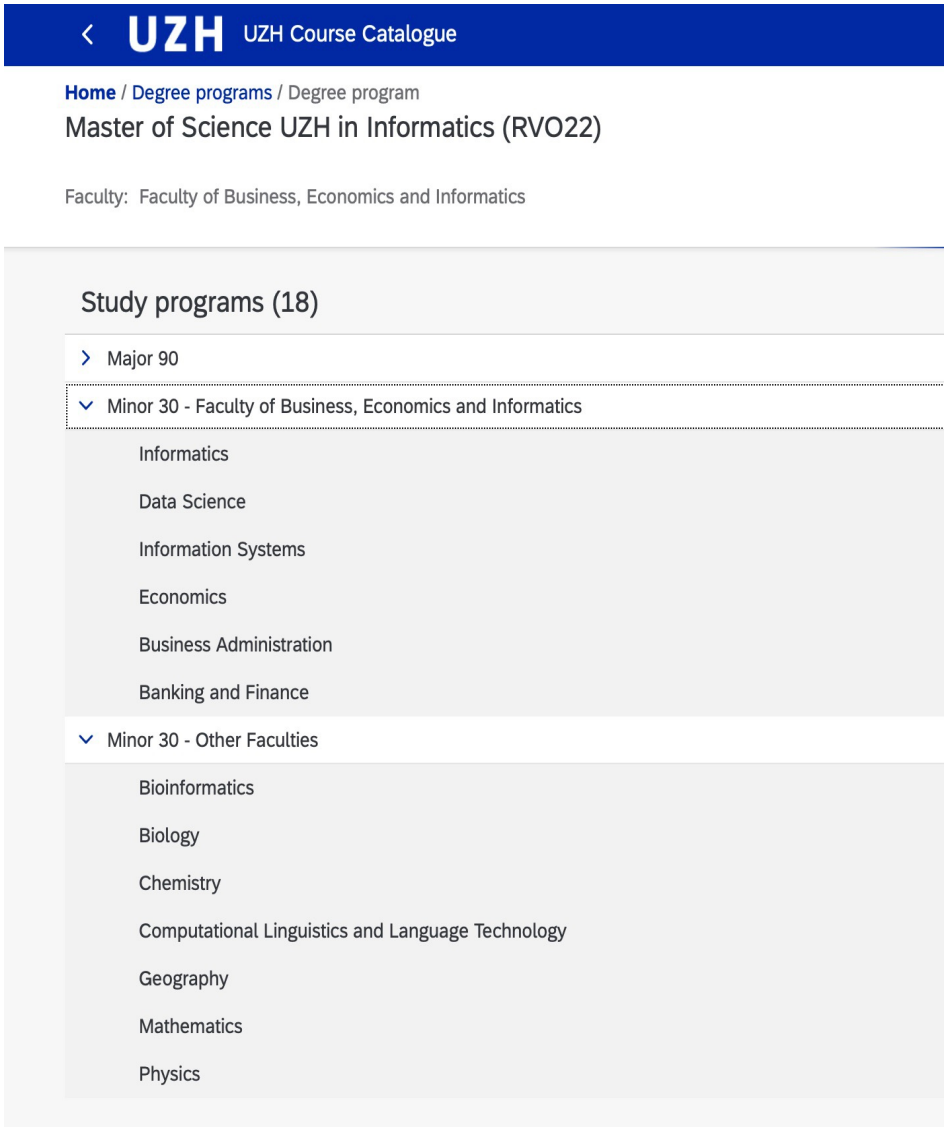
https://studentservices.uzh.ch/uzh/anonym/vvz/index.html

➢ Master of Science UZH in Informatics (RVO22) > Minor 30

Note: Modules in the *Minor area Informatics (INF)* are offered only in the Fall semester. There are no modules in the *Minor area Informatics* in the Spring semester. Take this into account when planning your next few semesters.

You can change your Minor under certain conditions:

https://www.oec.uzh.ch/en/studies/enrollment/change.html

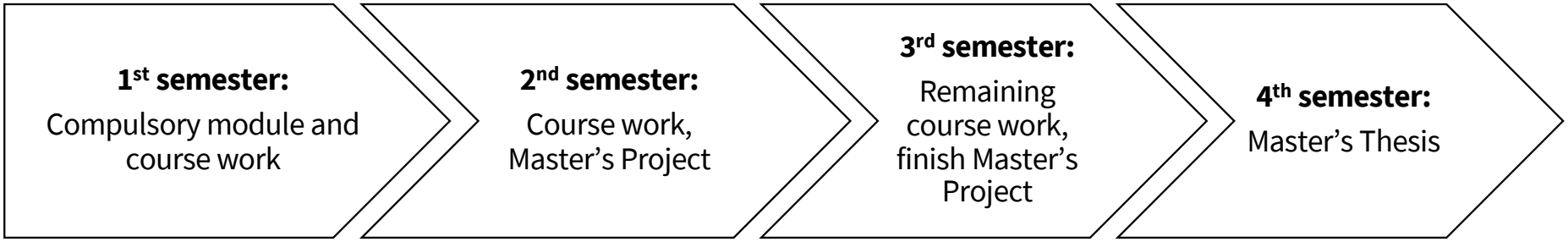


Hints (1/3)

— **Focus on the compulsory modules** in your Major and Minor programs

— **Make a study plan**

➢ Check course schedule of previous years for planning. Courses often stay in the same slot. Suggested order:



— **Read the fact sheets** well before starting the respective module or thesis

— All legally binding information regarding modules, incl. exam dates, are in the UZH Course Catalogue.
Most modules additionally have a website or OLAT course, but **the Course Catalogue is binding**

Hints (2/3)

- **Check the study websites** of the Faculty and the Department:
  - https://www.oec.uzh.ch/en/studies.html
  - https://www.ifi.uzh.ch/en/studies/msc-info.html
- Note that **booking/cancellation deadlines** may vary between faculties.
- Working at IfI: Some modules/courses seek **Tutors or Teaching Assistants**.
- ➢ Check out https://www.ifi.uzh.ch/en/studies/msc-info.html and the individual group pages.
- Mentoring, social events, representatives: Informatics **student association ICU**: https://icuzh.ch

Hints (3/3)

- **Consider the policies on plagiarism and scientific integrity.** You find the fact sheet on plagiarism on this website:
  - https://www.ifi.uzh.ch/en/studies/msc-info.html
  - The Swiss Academies of Arts and Sciences issued a Code of conduct for scientific integrity: https://akademien-schweiz.ch/en/themen/scientific-culture/scientific-integrity-1/

- UZH provides a number of **advice and support services** for topics such as Gender Equality and Diversity, Disability, or Psychological Counseling:
  - https://www.students.uzh.ch/en/advice.html

- **Practise passive and active English without tools** (in exams, no translation tools are permitted)
  - UZH offers English courses: https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Englisch.html

Questions/Whom to Contact

If you have questions, please follow these steps:

1. Read the Study Regulations: https://www.oec.uzh.ch/en/studies/regulations.html
2. Read the IfI's study information and fact sheets: https://www.ifi.uzh.ch/en/studies/msc-info.html
3. Check information in the Course Catalogue: https://studentservices.uzh.ch/uzh/anonym/vvz/index.html
4. Send e-mail to the respective person:

For questions about

- Master's Project
- Independent Studies
- Master's Thesis
- Informatics studies in general

Contact the IfI's Study Coordinator, Daniela Bärtschi: studies@ifi.uzh.ch

For questions specific to a course: Contact the instructor.

For everything else, contact the Dean's Office: https://www.oec.uzh.ch/en/staff/team.html (Study Affairs)

And of course you can ask your fellow students, for example by joining the student association ICU: https://icuzh.ch

Did you know?

The Informatics Library is part of the UB Sciences on the Irchel campus!

Books can be delivered to Oerlikon free of charge:
Simply select “UB Psychology” as pick-up location in swisscovery.

https://t.uzh.ch/1mr
or https://www.ub.uzh.ch/en

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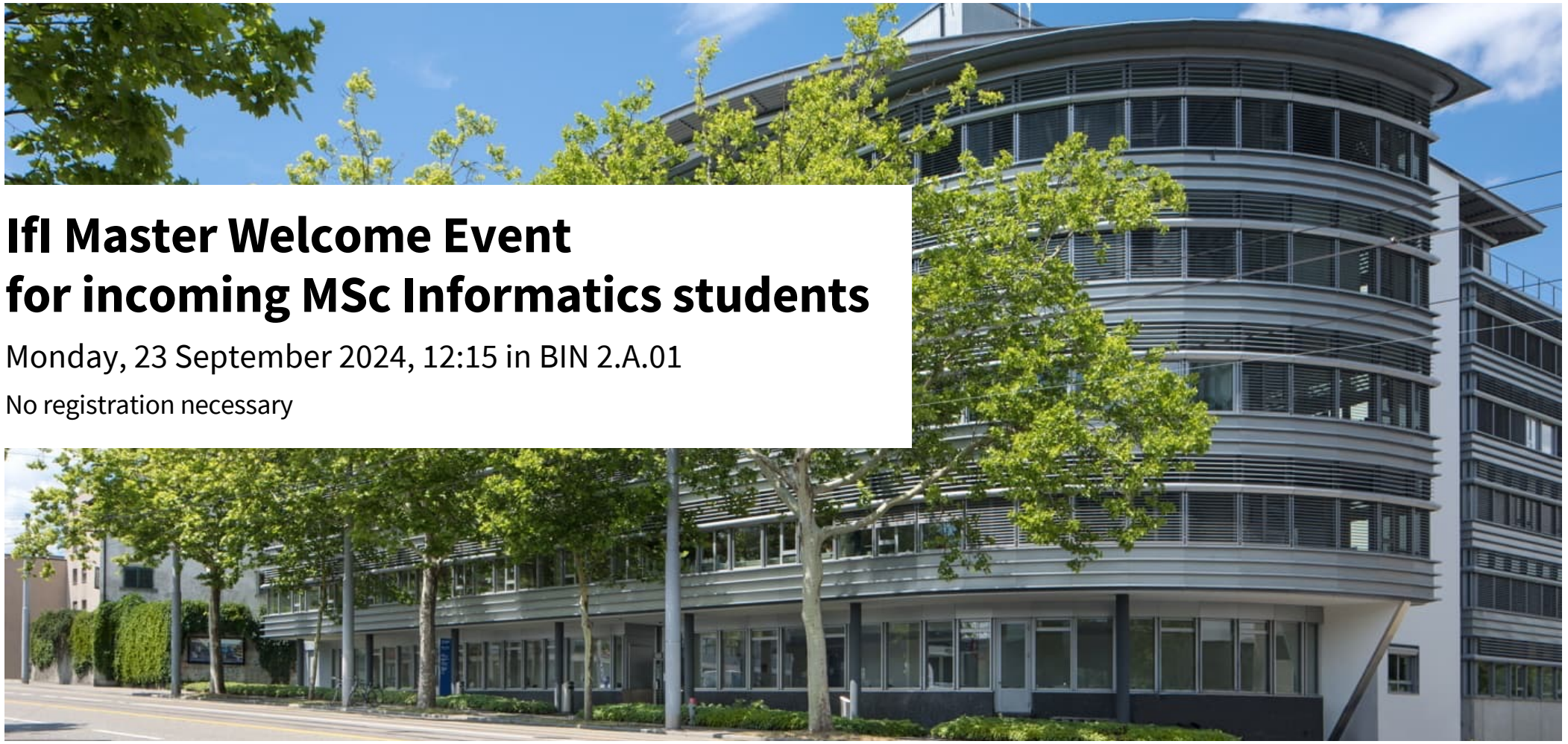

IfI Master Welcome Event for incoming MSc Informatics students

Monday, 23 September 2024, 12:15 in BIN 2.A.01

No registration necessary