



Agricultural Sciences at ETH Zurich

Master Information 3 November 2022

Welcome!



Emma Lindberg
Programme Coordinator



Aman Karwasra
MSc Student in Agricultural Sciences

Programme

- Welcome – who we are
- Agricultural Sciences @ ETH Zurich
 - Departement and Institute
 - Structure of the Master
 - Students and extracurricular activities
- Admission requirements and process
- Student's perspective and experience
- Contact

Department of Environmental Systems Science (D-USYS)



- 6 Research Institutes
 - Institute of Agricultural Sciences (IAS)
 - Institute for Atmospheric and Climate Science (IAC)
 - Institute of Biogeochemistry and Pollutant Dynamics (IBP)
 - Institute of Integrative Biology (IBZ)
 - Institute for Environmental Decisions (ITES)
 - Institute of Terrestrial Ecosystems (IED)
- 2 system-oriented study programs
 - Agricultural Sciences BSc & MSc
 - Environmental Sciences BSc & MSc
- More 50 professors, over 400 lecturers and research assistants, approx. 400 doctoral students and approx. 990 UMNW, 380 AGRW students

Institute of Agricultural Sciences (IAS) Research

[Prof. Nina Buchmann, Grassland Sciences](#)

[Prof. Consuelo De Moraes, Biocommunication & Entomology](#)

[Prof. Emmanuel Frossard, Plant Nutrition](#)

[Ass.-Prof. Johanna Jacobi, Agroecological Transitions](#)

[Ass.-Prof. Stefano Mintchev, Environmental Robotics](#)

[Ass.-Prof. Mutian Niu, Animal Nutrition](#)

[Ass.-Prof. Hubert Pausch, Animal Genomics](#)

[Prof. Johan Six, Sustainable Agroecosystems](#)

[Ass.-Prof. Benjamin Stocker, Computational Ecosystem Science](#)

[Prof. Bruno Studer, Molecular Plant Breeding](#)

[Prof. Susanne E. Ulbrich, Animal Physiology](#)

[Prof. Achim Walter, Crop Science](#)

[Dr. Stefan Neuenschwander, Animal Genetics Unit](#)

Associated Groups

[Prof. Wilhelm Gruissem, Plant Biotechnology](#)

[Prof. Olivier Voinnet, RNA Biology](#)

[Prof. Samuel C. Zeeman, Plant Biochemistry](#)

[Ass.-Prof. Antia Rodriguez-Villalon, Plant Development Biology](#)

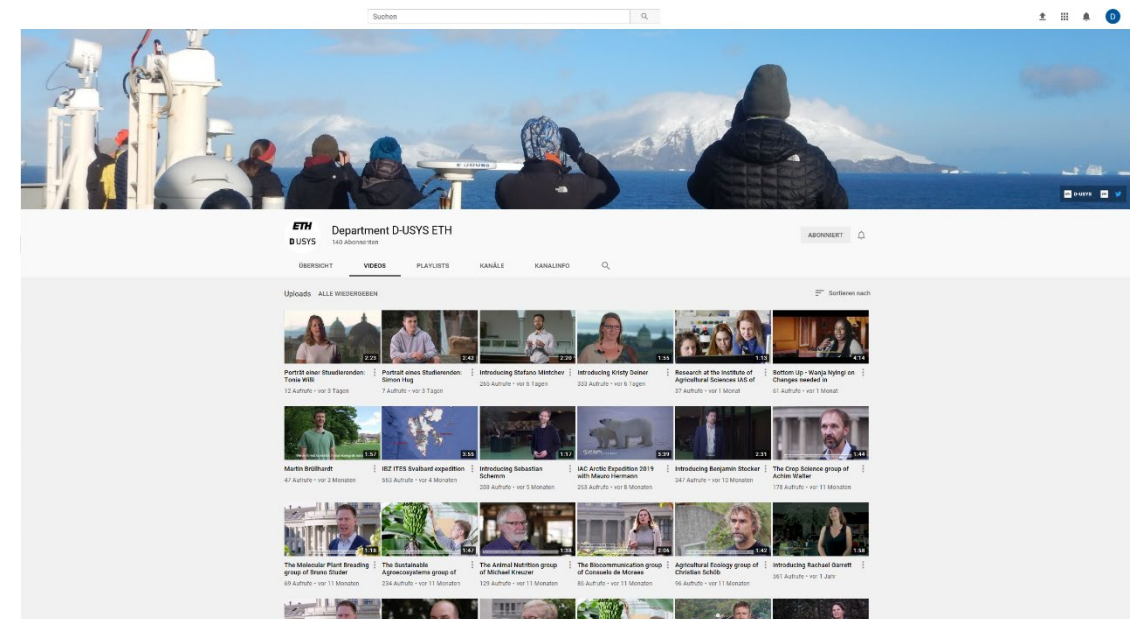
[Ass.-Prof. Clara Sanchez-Rodriguez, Plant Cell Biology](#)

[Prof. Eva-Marie Meemken, Food Systems Economics and Policy](#)

[Prof. Robert Finger, Agricultural Economics and Policy](#)

[Prof. Bruce McDonald, Plant Pathology](#)

- **Recommendation:**
Own Youtube-Channel
of the USYS (english)



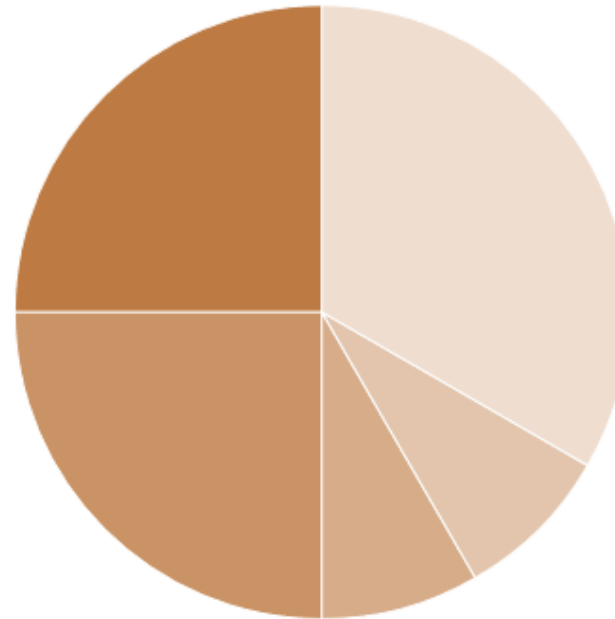
Master in Agricultural Sciences @ ETH

- Students gain knowledge about **relevant research questions** and findings from both **fundamental and applied research**.
- The Master's degree programme in Agricultural Sciences offers a **wide range of choice** in lectures and opportunities for research collaboration with **world-class level** groups.
- Graduates from the Master's degree programme are equipped with high-level **theoretical and methodological competence** and with **social and personal skills** to take up challenging professional work or an academic career.



MSc in Agricultural Sciences @ ETH: Structure

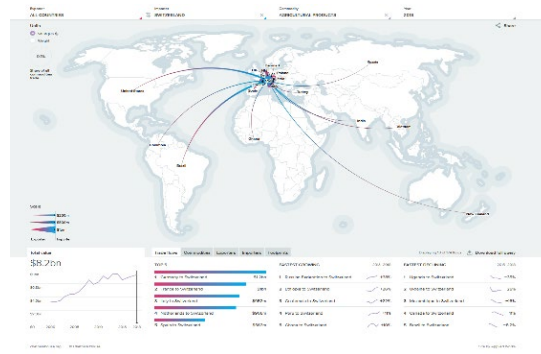
- **2 years** (120 ECTS) – max. 4 years
- **Majors - Specialisations**
 - Agricultural Economics
 - Animal Sciences
 - Plant Sciences
- **Minors**
- **Professional internship**
- **Master-Thesis**



Major	40 CP
Minor I	10 CP
Minor II or Electives	10 CP
Professional Internship	30 CP
Master's Thesis	30 CP

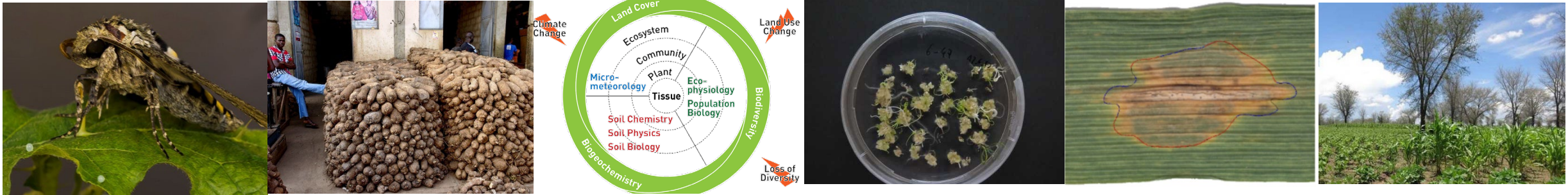
Major - Agricultural Economics

- This major deals with decisions made by farmers, actors in the agri-food sector (such as up- and downstream companies), and consumers. **Focus on interactions between policies and production and risk management decisions.**
- Students learn and **apply latest concepts from economics and policy evaluation** (e.g. econometrics, optimization and simulation models).
- This knowledge is key to contribute to the **development of resilient and sustainable agricultural and food systems worldwide.**

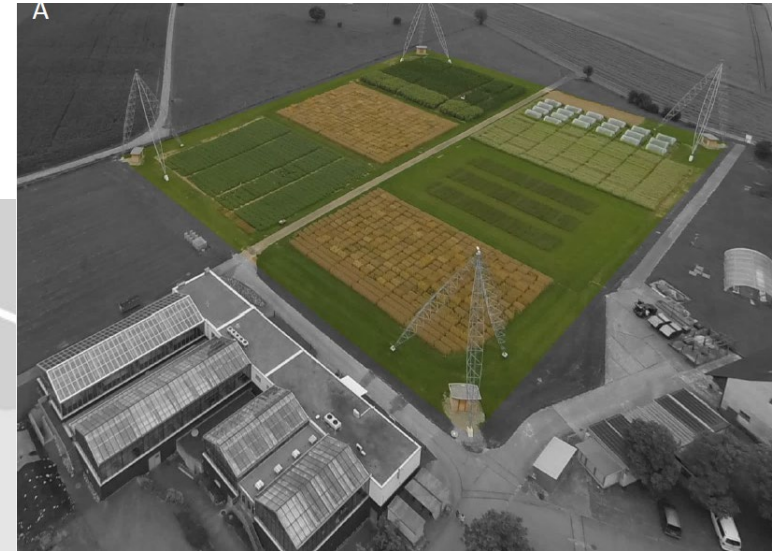


Major - Plant Sciences

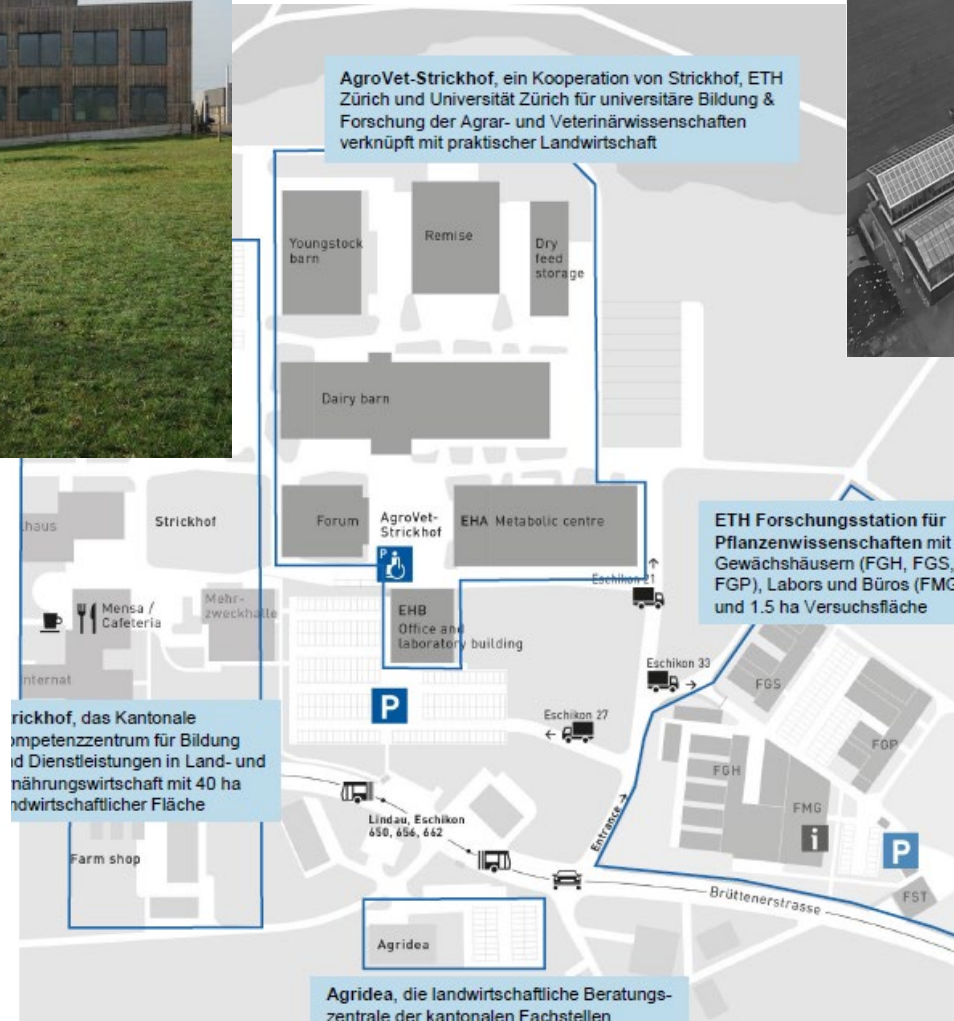
- This major deals with **arable and forage crops, cultivation systems, plant nutrition, plant protection, plant breeding, plant genetics, entomology** and the interaction between crop production and the environment.
- Camera-assisted monitoring of crop performance, interactions of crops with pests and diseases as well as analyses of trace gas emissions from agricultural fields and of global carbon or nutrient cycles are further focus topics.



External Research Campus: AgroVet-Strickhof and Plant Research Station (Eschikon, Lindau)



2017
Eröffnung AgroVet-Strickhof



Minors (10 ECTS) and electives (10 ECTS)

With the minor(s) the students add further specialisation to the Master's studies.

Minor Agricultural Economics and Policy

Minor in Animal Sciences

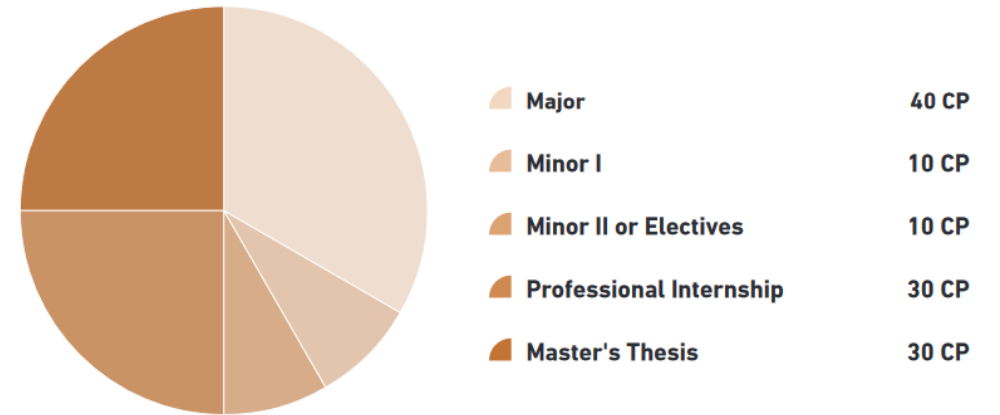
Minor in Crop- and Grassland Science

Minor Data Science and Technology in Agricultural Sciences

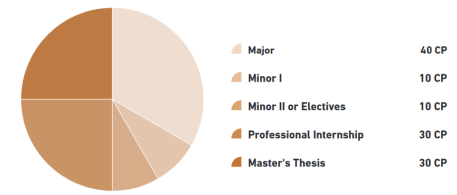
Minor Functioning of Soil Systems

Minor in Safety and Quality in Agri-Food Chain

Minor Sustainable Agricultural Development



Professional internship (30 ECTS)



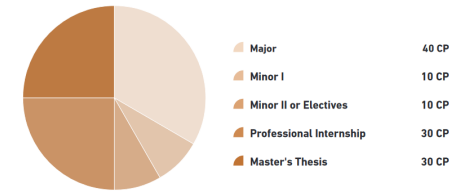
- **Compulsory component:** encompasses preparatory tasks, a **work placement** in an agriculturally-related professional context (16 weeks minimum), and a follow-up phase.
- During the internship, students can deepen their **theoretical knowledge**, develop their **interpersonal** and **communication skills**, and have the opportunity to demonstrate their **methodological competencies**.



Master's Thesis (30 ECTS)

The Master's thesis is an **academic work** written independently in the thematic area of the student's chosen specialisation.

The Master's thesis includes a scientific written work, an oral presentation and a poster.



More Information about the Masters Programme



Study Guide Bachelor's and
Master's Programme (PDF, 674
KB) ↓

D-USYS website – Study programme Agricultural Science
a range of general information on the study programme
<https://usys.ethz.ch/en/studies/agricultural-sciences>

Course Catalogue - An updated Course Catalogue, with
all information on content, objectives, performance
assessments, etc. relating to all courses offered at ETH
Zurich can be accessed via this link.
www.vorlesungsverzeichnis.ethz.ch

Students and extracurricular activities at ETH Zurich



- Around 300 students in Bachelor's and Master's programmes
- Central campus with a roof terrace – access to several research sites spread over Switzerland
- Student jobs
- Student association with lots of activities
- Large offer of sports and recreational activities (ASVZ)

MSc in Agricultural Sciences @ ETH: Requirements

- **BSc title recognised**
- **Language requirements fulfilled (only English)**
- **Good grades**
- **Strong and relevant letters of recommendation (from faculty)**
- **Fulfillment of [requirement profile](#):**
 - **A: Applicants from BSc in Agriculture – if admitted, often additional classes in Biology, Chemistry, Maths, Economics**
 - **B: Applicants from related Sciences (Biology, Geography) – if admitted, additional classes in general Agricultural Sciences**

MSc in Agricultural Sciences @ ETH: Requirements (Plant/Animal Sci)

1.2.1 Specialisations in Animal Sciences and Plant Sciences

Part 1: Basic knowledge and competences (61 credits)

Part 1 comprises 61 credits KP and covers basic knowledge and competences from the disciplines Mathematics and Natural and Social Sciences. The substance of the following course units is required:

- Mathematics at least 10 credits
- Chemistry at least 5 credits
- Physics at least 5 credits
- Biology at least 9 credits
- Economics and Law at least 6 credits

Part 2: Subject-specific knowledge (16 credits)

Part 2 comprises at least 16 credits and covers knowledge related to the chosen specialisation. The required knowledge covers the fundamentals of Animal Sciences or Plant Sciences, depending on the area selected.

MSc in Agricultural Sciences @ ETH: Requirements (Ag Economics)

1.2.2 Specialisation in Agricultural Economics

Part 1: Basic knowledge and competences (61 credits)

Part 1 comprises a total of 61 credits and covers basic knowledge from the disciplines Mathematics, Natural and Social Sciences and foundation courses in Agricultural Sciences. The substance of the following course units is required:

Part 1a: *Mathematics, Natural and Social Sciences (at least 55 credits)*

- Mathematics at least 16 credits
- Natural Sciences at least 14 credits
(Chemistry, Physics, Biology)
- Social Sciences at least 6 credits
(Law, Economic Sciences)
- Economics at least 10 credits

Part 1b *Agricultural Sciences (at least 6 credits)*

- Plant Sciences or at least 6 credits
Animal Sciences

Part 2: Subject-specific knowledge (16 credits)

Part 2 comprises 16 credits. The required subject-specific knowledge involves fundamentals of Agricultural Economics and the analysis methods relevant to this area.

Prerequisites & Additional Requirements – form

Record of Subjects Taken or to be Taken

Please list all your classes, courses, theses, etc. in the same order as they appear on your official transcript. Please provide a short summary of the course descriptions (max. 489 characters).

No.	CIVIL-312	Acad Year	2022	Subject	Hydraulic structures and schemes								
Course Description and/or Textbook Used					Duration (Weeks)	14							
Hydraulic structures and schemes are vital for ensuring supply of clean and renewable energy as well as water in enough quantity and sufficient good quality in order to fight against famine, poverty and deceases in the world.					Contact Hrs per Week	5							
					thereof	Lecture	3	Tutorial	2	Lab	0	Thesis	
					Grade		Credits	5					

Good example

Record of Subjects Taken or to be Taken

Please list all your classes, courses, theses, etc. in the same order as they appear on your official transcript. Please provide a short summary of the course descriptions (max. 489 characters).

No.	AHT 102	Acad Year	2019	Subject	Intro Art History I (AP Art History) High School								
Course Description and/or Textbook Used					Duration (Weeks)								
AP Art History					Contact Hrs per Week								
					thereof	Lecture	0	Tutorial		Lab		Thesis	
					Grade	TR	Credits	3					

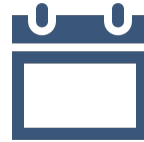
Bad example

How to apply:



1. Online application

Details regarding requirements and link to the [online application process](#)



2. Application Deadlines

International Bachelor's degrees:

1 November -15 December 2022

Swiss Bachelor's degrees: 1 April –30

April 2023



3. Admission decision

You will be informed by end of March

- **Rejected**
- **Admitted with additional requirements** (5-15 ECTS complementary courses)
- **Admitted without additional requirements**

Students experience and perspective:

- About me.



- Why I choose ETH Zurich?

ETH zürich

- What expectations I had?



- My experience.





Other student services....

What ETH actually offers you?

OPPORTUNITIES



Thank you for your attention!

Further information and contact

Further information

<https://usys.ethz.ch/en/studies/agricultural-sciences/master.html>



Study programme coordinator

Emma Lindberg

emma.lindberg@usys.ethz.ch

Tel. +41 44 632 38 93