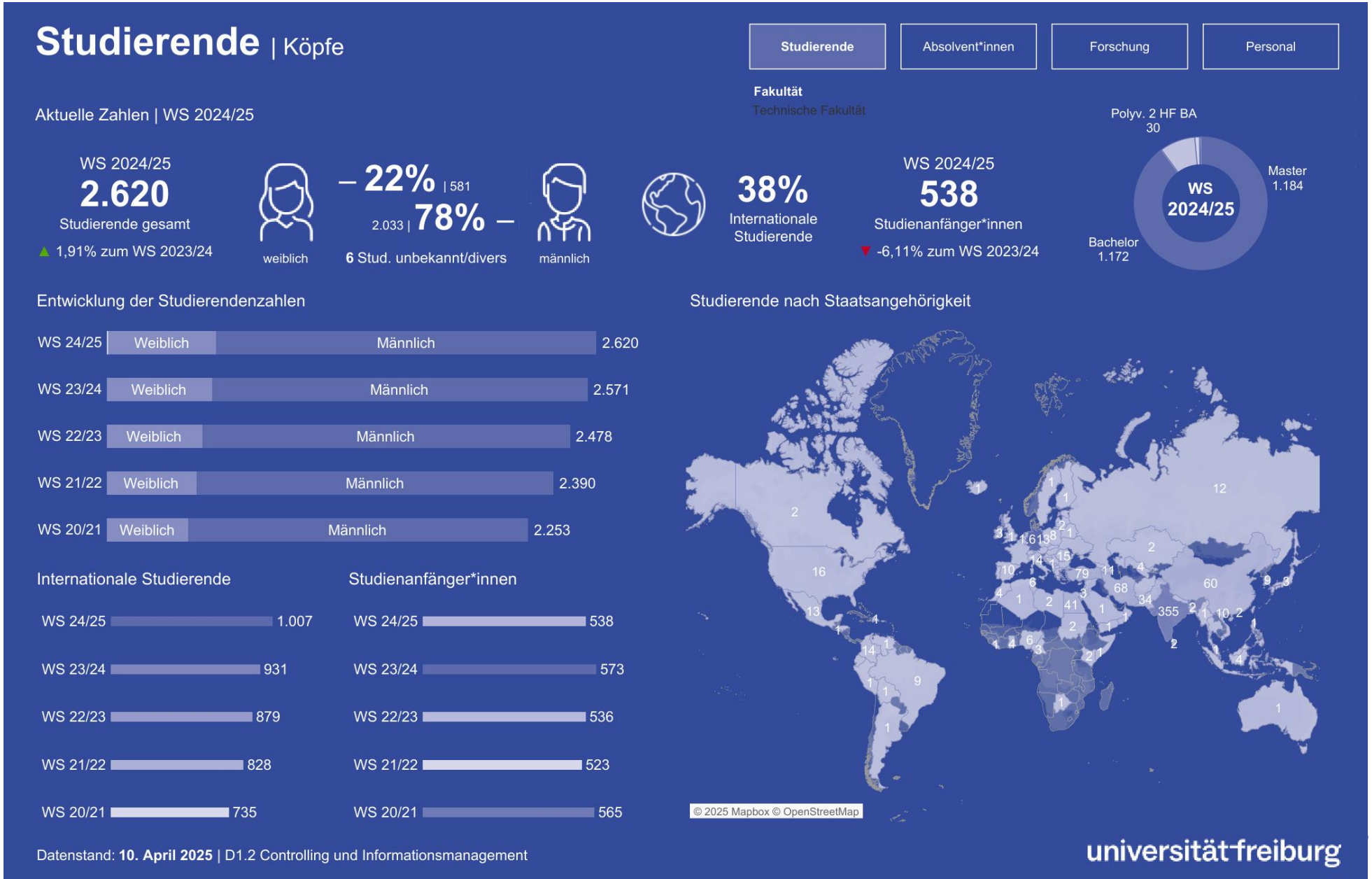
universität freiburg

M.Sc. Informatik / Computer Science

Department of Computer Science
Faculty of Engineering
University of Freiburg
April 16, 2025

Welcome to the Faculty of Engineering



Programme Coordinator / Study Advisor

- Martina Nopper (Dipl.Inf.)
- Study Advisor for Computer Science
  (and Embedded Systems Engineering)
- Mail: studienberatung@informatik.uni-freiburg.de
- Phone: +49 761 203 8169
  Phone Consulting hours: Monday 1:30 – 4 p.m. + Thursday 9:00 – 11:30 a.m.
  More information about consulting (and changes to consulting hours) see here:
  https://www.tf.uni-freiburg.de/en/study-programs/counseling

I‘ll show you…

1. How to organize your studies
2. Some administrative things
3. Some important rules regarding exams
4. Where you can get information and help

1. Syllabus / Study Plan

Very flexible syllabus…

- We provide no ready made schedule!
  It is up to **you** to decide what you do and when.
  (Well, in the framework of the rules and regulations…)
- How exactly you put together your curriculum does not matter to us...
  In the end, you must have fulfilled the requirements of the examination regulations.
- So, none of your study plans will look the same!
- Now, let me explain how to built your own individual study plan.

Vocabulary you should know… part 1

Modules = building blocks of the syllabus

- Consist of various elements (different symbols/icons in study planner)
- Credits are given for complete module, no „partial credits“

Courses in the Computer Science programme:

- Lectures – Vorlesung (V)
- Exercises – Übung (Ü)
- Lab courses – Praktikum / Praktische Übung (Pr)
- Seminars – Seminar (S)
- Projects – Projekt (*also* Pr)

Vocabulary you should know… part 2

Graded assessments or pass/fail:

- Coursework or pass/fail assessments (“Studienleistungen”, SL)
  - Part of module or final assessment
  - May be graded, or only “pass” or “fail”
  - Not part of the final grade
  - No negative consequences if failed (just might have to be repeated)

- Graded assessments /Exams (“Prüfungsleistungen”, PL)
  - Always graded
  - Always counts into the final grade
  - Strict rules/regulations and very limited number of attempts

Syllabus: General structure

42 ECTS
(7 lectures)

Advanced Lectures
(1 or 2) **+**
Specialization Courses
(6 or 5)

12 ECTS
2 **Seminars +** 1 **Lab Course**

18 ECTS
Study project

18 ECTS
Customized Course Selection

12 ECTS
from courses offered outside CS

6 ECTS
- also from courses offered outside CS
- **or** 1 language course
- **or** 1 additional CS lecture

30 ECTS Master Thesis + Colloquium (defense)

For optional specialization in AI or CPS:
At least 24 ECTS from according lectures + Study project + Master Thesis in related topic

Optional specialization

- Topics in **Artificial Intelligence:**
  - Robotics and AI
  - Machine learning and Deep learning
  - Computer vision and graphics
- Topics in **Cyber-Physical Systems:**
  - verification and analysis of hard- and software systems
  - software development and programming languages
  - embedded systems

Course lists as PDFs on programme website → Curriculum

Formal requirements:

- At least the following courses have to be from this area:
  - 4 Specialization courses or Advanced lectures (24 ECTS (6 each))
  - 1 Study project (18 ECTS)
  - 1 Thesis (30 ECTS)

Advanced Lectures

You **have to** do at least one advanced lecture, you **may** take two at the most (the 2nd replaces a specialization course).

7 Defined Modules / Courses:	Semester
Algorithm Theory	Winter
Databases and Information Systems	Winter
Machine Learning	Winter
Computer Architecture	Winter
Foundations of Artificial Intelligence	Summer
Image Processing and Computer Graphics	Summer
Software Engineering	Summer

Specialization Courses

You have to take 6 or 5 specialization courses (depending how many advanced lectures you take) → **in total it's 7**.

Lots of different lectures (+ exercises) to choose from in areas like:

- Algorithms / Bioinformatics
- Computer Architecture / OS / Embedded Systems
- Software / Programming
- AI / Robotics / ML / DL
- Computer vision / graphics
- Networks / Data bases

Seminars and Lab Course

You have to do **2 seminars** and **1 lab course**

- **Seminars** generally can be held in a weekly fashion or as a compact course („Blockseminar“) for the presentations
  (details given in course description)
- **Seminars** and **Lab courses** may vary in topic and/or name from semester to semester, as most lecturers like to keep up-to-date with their research areas

Check out how to book seminars:

https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/booking-of-pro-seminars-in-computer-science

Study Project

You have to do **1 study project**

- You‘ll work (under a supervisor, but independently) on a current research topic in one of the workgroups / Chairs of the department
- See it as your „trial run“ for the Thesis
- Has to be completed before you can register for your Thesis

Before you start with your Study Project, please check out the procedure of finding a topic, registering the project etc.:
https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/registering-for-projects

(Same goes for the Thesis! Read those FAQs in time, too!)

Customized Course Selection („Individuelle Studiengestaltung“)

- 18 ECTS (at least – can be slightly surpassed)
- You have to do some courses from subjects outside of Computer Science
- Only SL (pass/fail) in courses outside CS
  (so, not counted into final grade)
- You can choose to **replace** courses outside CS amounting to **6 ECTS (at most)** with
  - ***Either*** one language course
  - ***Or*** another Computer Science lecture (advanced or specialization), but in this case, the **CS course** will have an **exam (PL)** and count into the final grade!

Available subjects to choose from

- Some subjects are integrated in the study planer in HISinOne, but not all of them. For those subjects not available for booking in the planner of studies, you‘ll have to organize things like registering for the courses and exams on your own (by contacting the lecturers, for example).

- See full list on program website:
  https://www.tf.uni-freiburg.de/en/study-programs/computer-science/m-sc-computer-science
  → Curriculum

Master Thesis

- Master thesis (27 ECTS) graded
- Colloquium (= Presentation / Defense) (3 ECTS) graded
- Admission to thesis:
  at least 72 ECTS credits (including completed Study project)
  (plus conditional courses from admission, if applicable)
- Duration: 6 months

More information:
https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/thesis

Administrative things

Some practical advice and general facts

- Most courses are offered every other semester (i.e. once a year); some can be held more irregularly; should be mentioned in the module handbook (see HISinOne or PDF)
- Overlapping courses...
  With the amount of courses and the flexible curriculum, this just happens.
  Basically: Find a way to deal with it!
  (Meaning: Choose one course for this semester, do the other one in year;
  or check for lecture recordings, or cooperate with co-students…)
- Be aware that you might need to adapt your original study plan!
  (Have a plan A, B and C…)

Some practical advice and general facts

- Usually no dependencies regarding order of courses
  - Nevertheless, check with lecturers for appropriate combinations or recommended order of courses
- Most prerequisites stated in the course catalog are recommendations, they are not mandatory; well, a few of them are…
  Just read the information given in the description!

Conditional admission: What does this mean?

- Conditions have to be fulfilled in addition to the normal Master‘s curriculum → likely to extend your study time
- You have to complete the required modules by the end of the second semester.
  They should be your top priorities!
  (Especially in case of course collisions/overlaps)

- You will be automatically registered for these courses as well as exams.
  If you should decide not to take the exam in the intended semester (after the course), you have to contact the examination office to de-register.
- Exams required for conditional admission can only be repeated once.

Advice for your next steps

- Study the course catalog / planner of studies *(What courses are offered right now?)*
- Check out a few more courses than you intend to complete in the given semester
  - *Go to the lectures for about 2-3 weeks and then decide which courses to continue, de-register from those you don't want to pursue*
- Register (via HISinOne → "Booking of courses") for the courses you want to take as soon as possible
- Information on dates and deadlines for course booking:
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/calendar-dates
  → Booking deadlines for Bachelor and Master courses
- **Read the official exam regulations!**
  (= terms and conditions of your study programme)
  https://www.tf.uni-freiburg.de/bilder/studium_lehre/englische-poen/exam-regulations-msc-cs-po-2020

Registering for/ Booking of courses

- Have a look at your **Planner of studies** https://campus.uni-freiburg.de
- Follow instructions from the following explanation / slides
- If you have questions or made a mistake while booking:
  Contact Ms. Moses in the Dean‘s office: moses@tf.uni-freiburg.de or myself
  (Screenshots are really helpful)

Be aware: Different course types have different deadlines!

(See https://www.tf.uni-freiburg.de/en/studies-and-teaching/calendar-dates

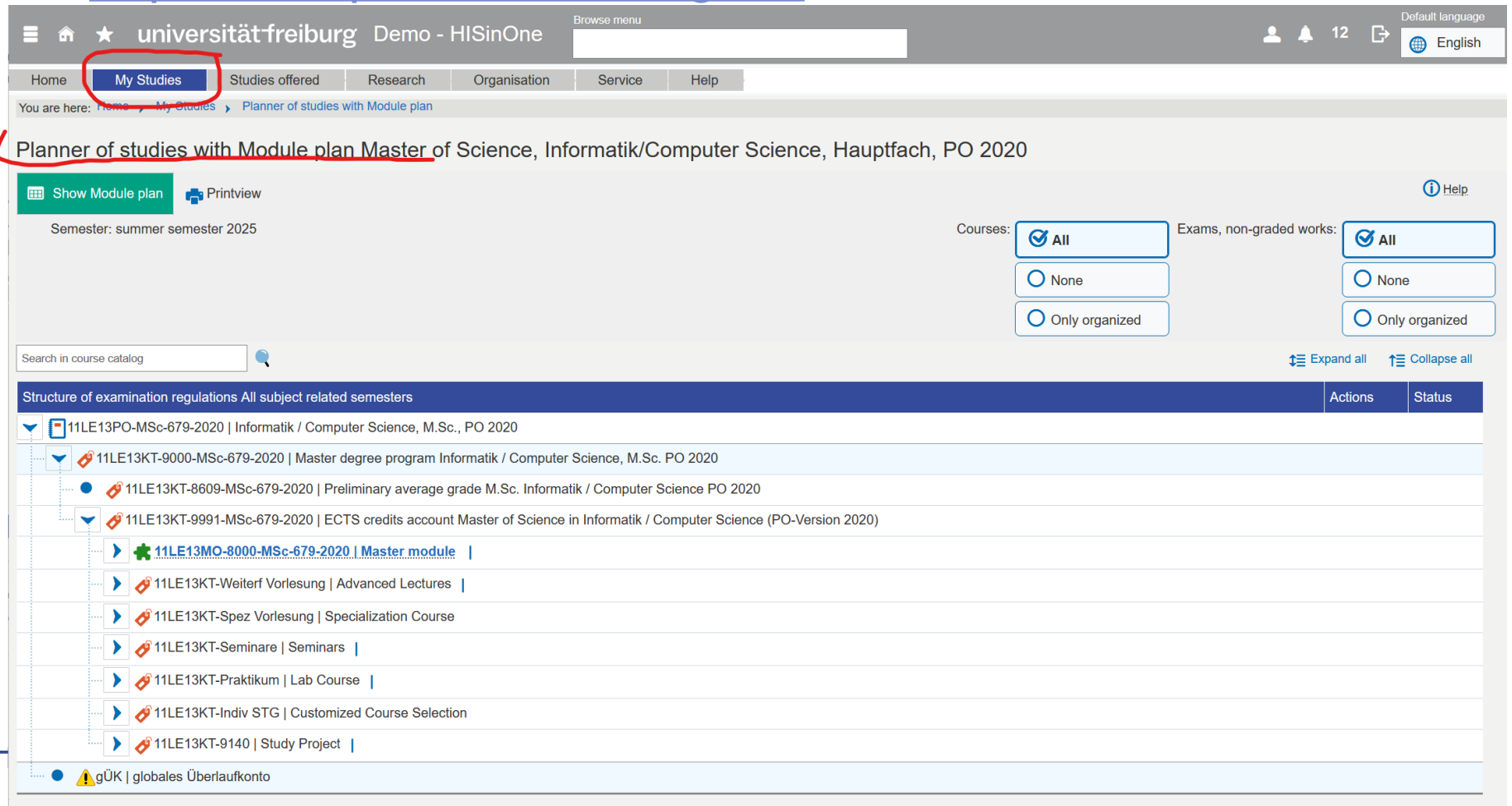
→ Booking deadlines and seat allocation for Bachelor and Master courses)

If you forgot to book a course:

- Contact the lecturer and ask if there are still seats available and if it generally makes sense to start late
- The examination office **can‘t** help you with the booking of courses!

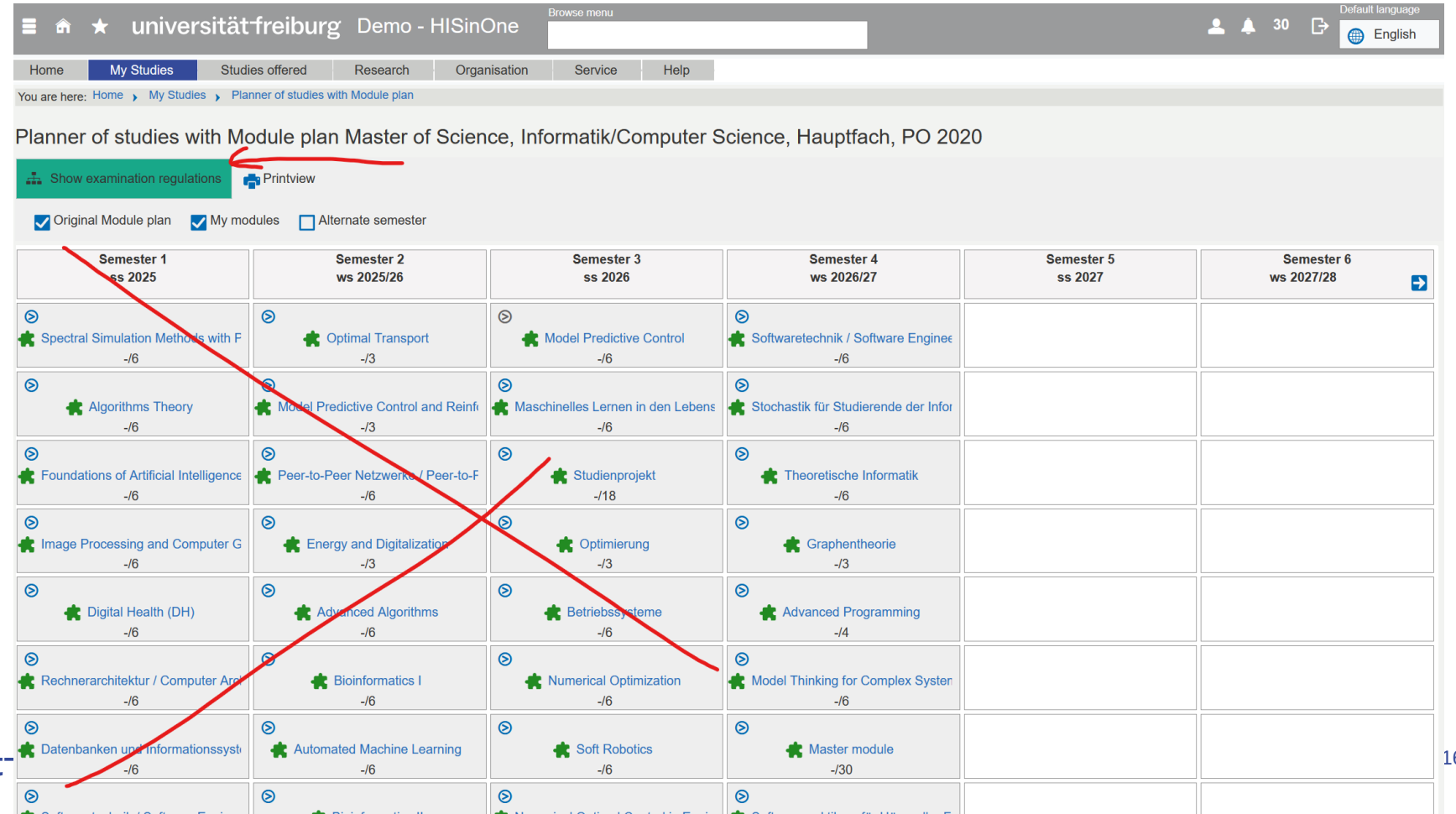
HISinOne Demo:
Login and Planner of Studies

- Log in to https://campus.uni-freiburg.de/

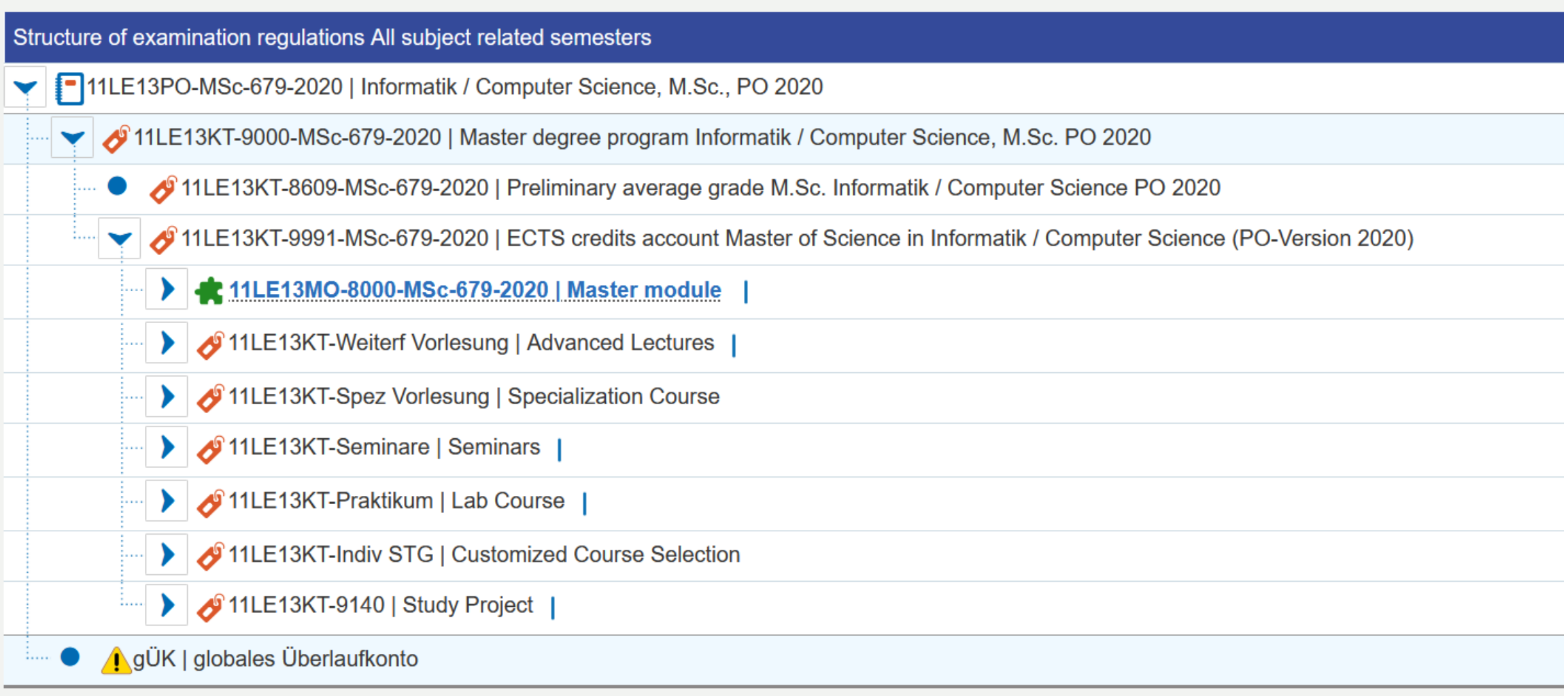


HISinOne Demo:
Planner of Studies – Different views

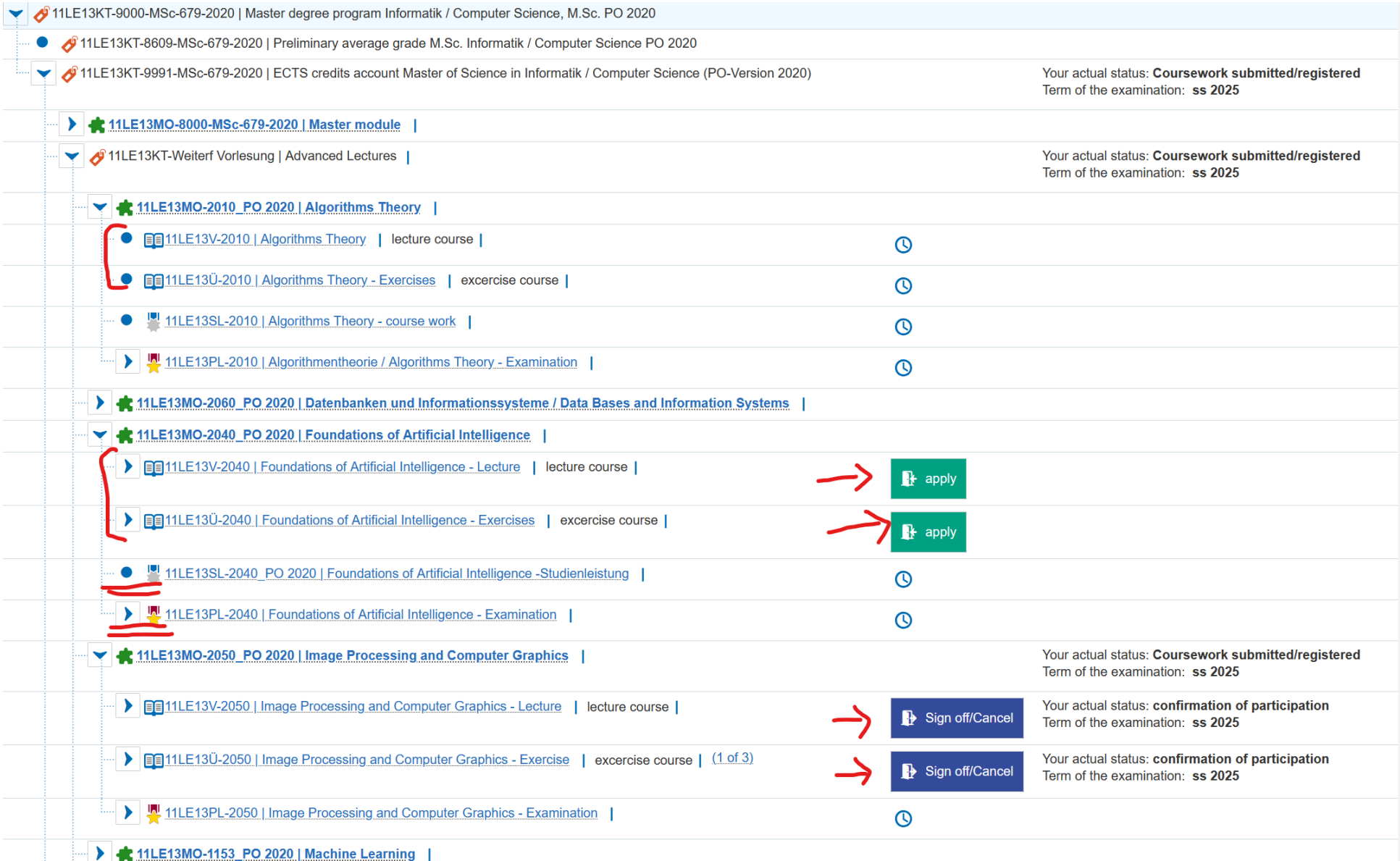
- Use the correct view: Examination regulations



HISinOne Demo:
Examination regulations structure



HISinOne Demo:
Module – Courses – Assessments

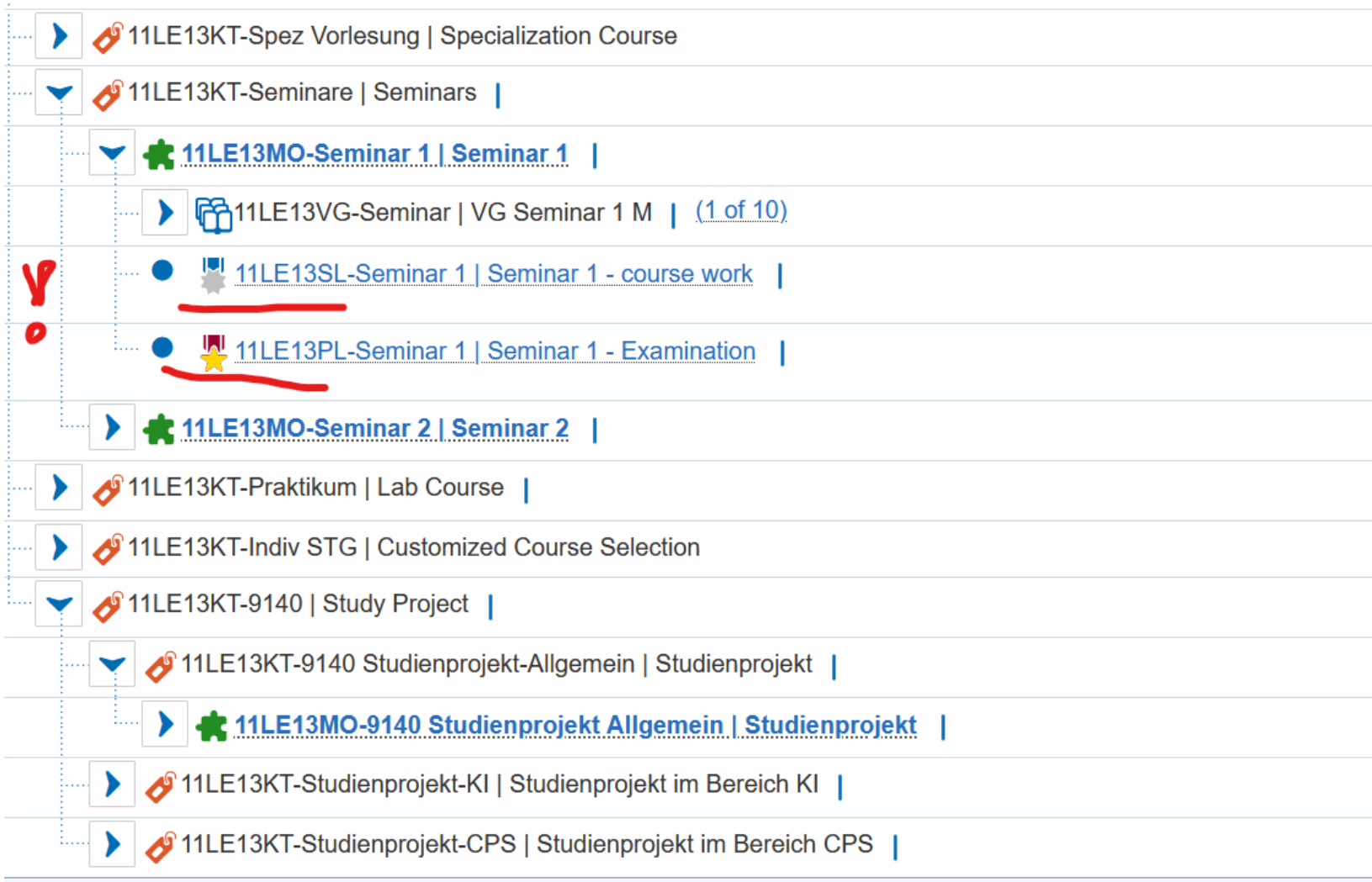


HISinOne Demo:
Registration procedure for seminar, lab, project

- Check out how to book seminars and how to register for projects!

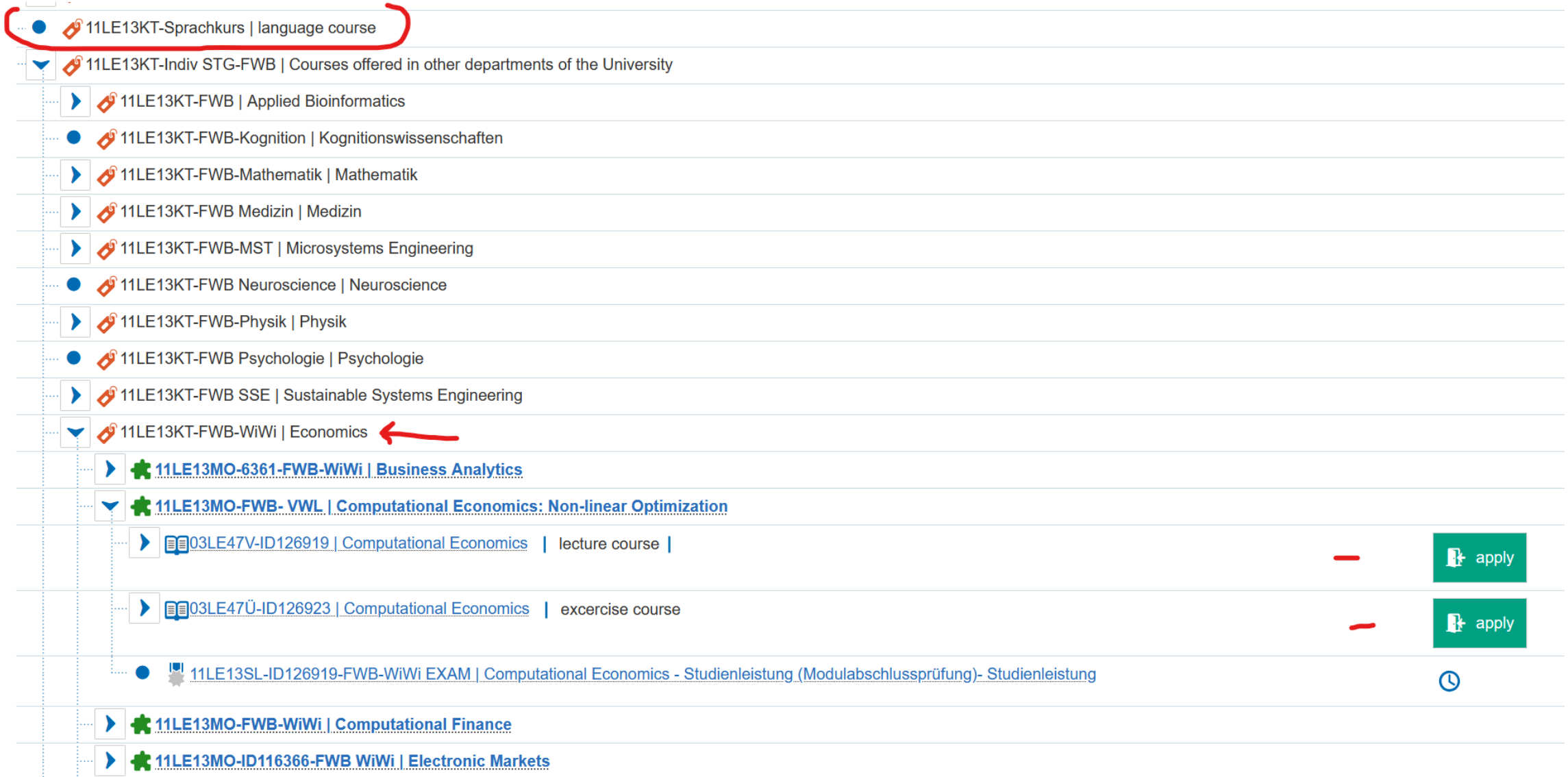
https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/booking-of-pro-seminars-in-computer-science

https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/registering-for-projects



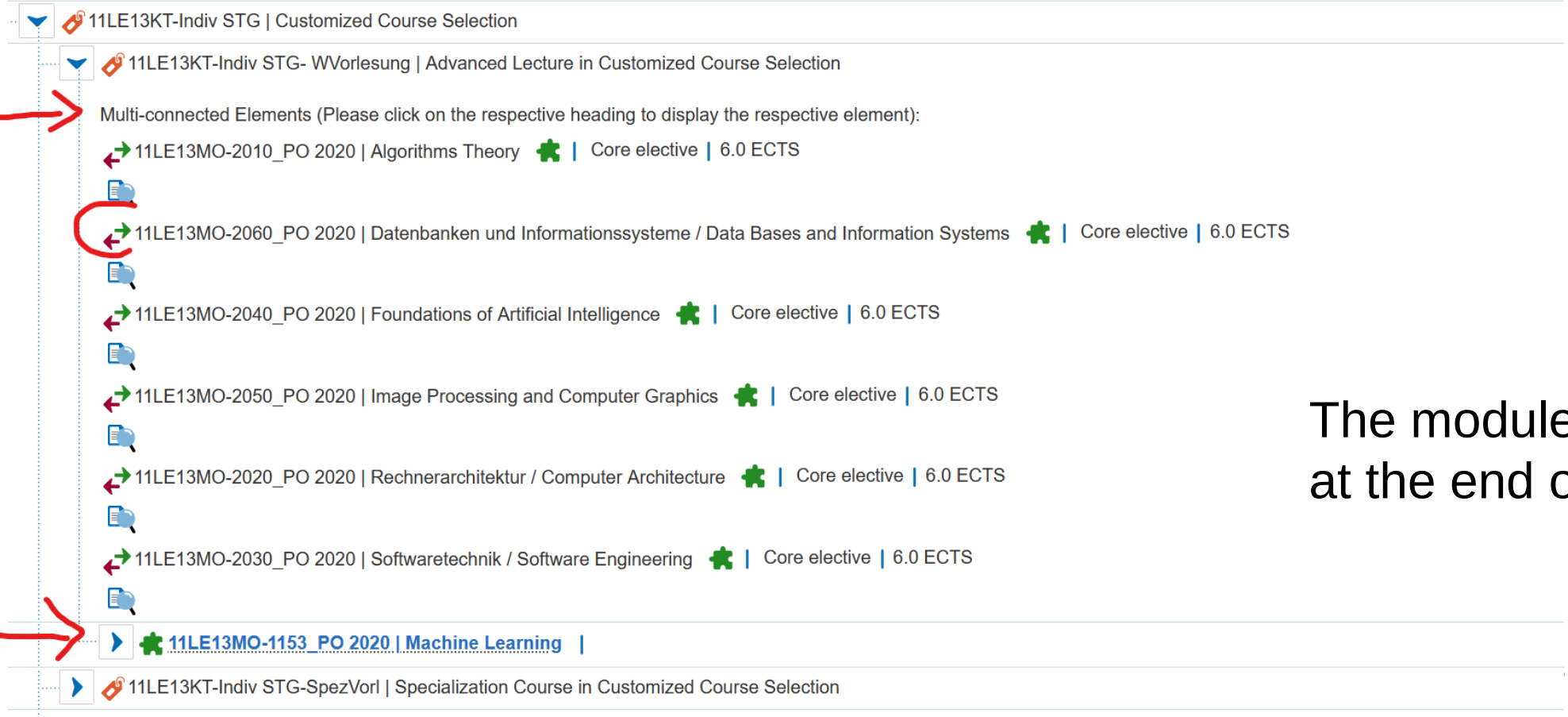
HISinOne Demo:
… or lab course

HISinOne Demo:
Customized Course Selection



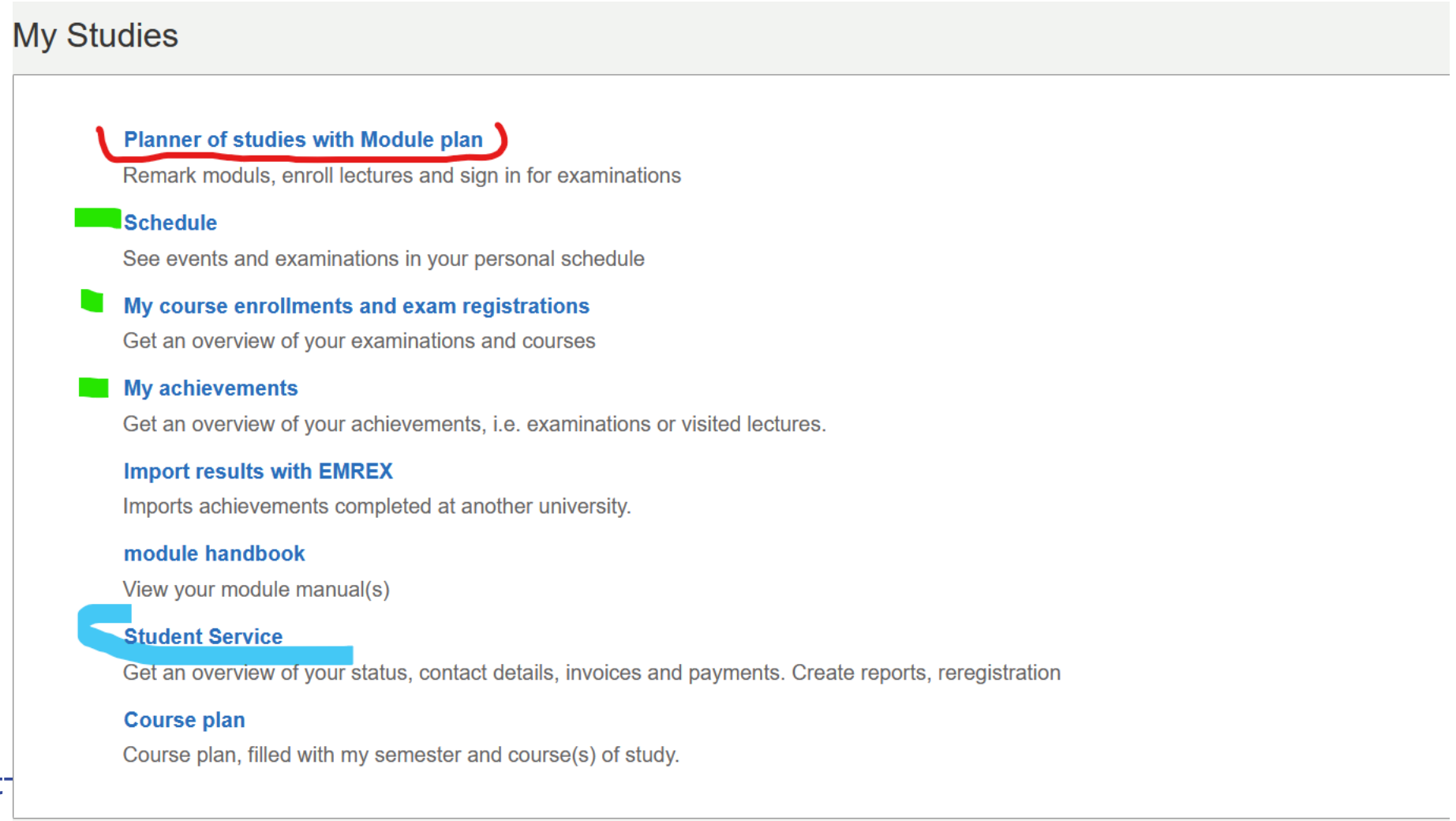
HISinOne Demo:
Multi-connected Elements

- Green and red arrows? Don‘t panic!



The module shows up at the end of the list.

HISinOne Demo:
Other useful menu items



Rules regarding examinations

More details will be offered by the examination office team in a presentation in a few weeks.

You‘ll receive an invitation e-mail in time…

Registration for exams / graded assessments (PL)

- It's a second, independent step from booking the course.
  It's **not** done automatically!
- The procedure is *similar* to booking the courses. For a how-to, see
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/examinations
  Deadlines for the registration (and de-registration) for exams are also mentioned on this website.
- Without registering for an exam you are not allowed to take it, so **do not forget**!
- To make sure you are correctly registered, we recommend saving/printing the pdf of the in HISinOne
  → My studies → My course enrollments and exam registrations

How to proceed if you failed an exam

- Number of attempts are limited:
  - 2 attempts for every exam / graded assessment (if needed)
  - 2 oral or written exams for CS lectures can be attempted 3 times
    (This rule does not include seminars or the project!)
- You are registered automatically for the repetition(s) and **cannot sign off!**
- Repetition exam will take place in the **very next semester**.
- You can replace one Advanced lecture or specialisation course you failed the exam / graded assessment with another one, but it has to be done after the first failed attempt. So: *Either repeat or replace (once).*

Improvement of a grade

- Repeating an exam that you have passed, to improve your mark, is possible in one module you did in your first year of studies here
- This rule applies only to written or oral exam of a Computer Science lecture + exercise
- You have to take the „repetition“ exam directly in the following semester
- The examination with the **better** grade will be considered official

Missing an exam:
Unexcused or authorized withdrawels

- If you do not attend an exam that you registered for, it counts as failed, unless you have a valid excuse.
- Valid excuses can be
  - Due to illness

    → Doctor‘s note required, see

    https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq
  - Due to emergencies in family etc.

    (please contact examination office immediately)

Intellectual honesty / plagiarism

What about AI like ChatGPT?

→ If lecturers don‘t explain their rules about this, please ask them about it!

Don‘t just assume it‘s fine to use, it might be seen as cheating!

- Plagiarism is:
  - Using someone else’s texts, pictures, reports, data, solutions, whatever….
  - ... without citing the source
- Sources include:
  - Books, the internet, colleagues, …
- To make it clear:
  Plagiarism is illegal!
  It is cheating!

- The simple „if…then“ loop:
  - If you cheat (once)
    → then you fail the course
  - If you cheat repeatedly (twice)
    → then you are thrown out of the program and your academic career is over
- Intellectual honesty is important!
  Don’t pass off someone else's work as your own!

Finding information and help

Students are responsible to stay informed

- You are independent persons, expected to self-organize and self-motivate. There is no service establishment catering to all your needs.
- We provide the necessary information through different sources:
  - Websites
  - Introductory events
  - Official documents (like exam regulations)
  - Information e-mails

    (Make sure to have access to your faculty user account and forward or use that e-mail address!)

If you don‘t find the information, maybe try using a search engine…

- Reading is essential! Please read! The whole text, all the lines in an email, the complete instructions in exercise or exam sheet…
- „I did not know!“ is not an acceptable excuse!

Check out the information on our websites

- For new students:
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq/freshers-info
- Dates and deadlines:
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/calendar-dates
- A to Z – Study FAQs (especially useful for information about examination related things):
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq
- Website for your study programme
  https://www.tf.uni-freiburg.de/en/study-programs/computer-science/m-sc-computer-science
- Contacts for advisory services at TF etc.:
  https://www.tf.uni-freiburg.de/en/study-programs/counseling

Gegen sexuelle Belästigung, Gewalt und Stalking

Against Sexual Harassment, Violence, and Stalking

Foto:The KonG – stock.adobe.com

Beratung? Counselling?

+49 761 203-4222

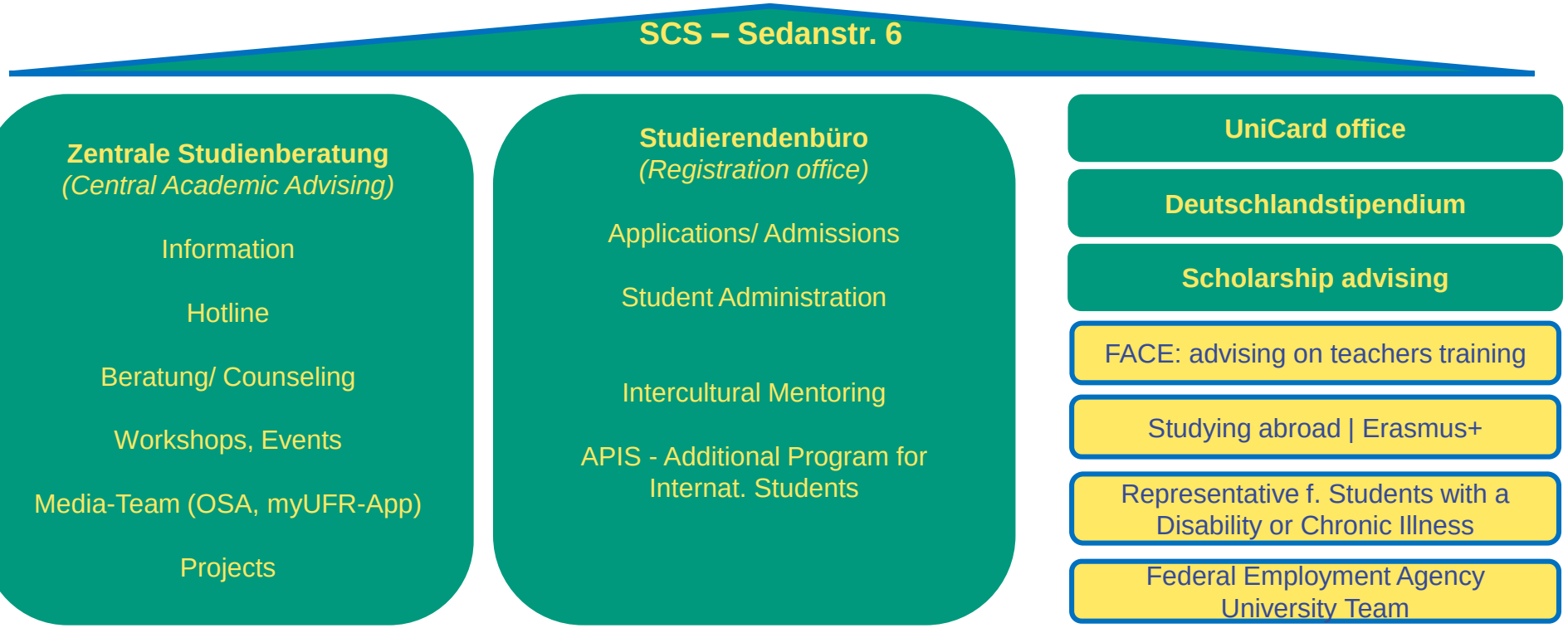
+49 152 22928696

www.gleichstellungsbuero.uni-freiburg.de

universität freiburg

Further contact points outside TF:

- SWFR (Housing, Financial Aid / Bafög, Social and **Psychotherapeutic Counselling**…)
- Student Service Center (SCS) in Sedanstraße 6



Whom to ask about what?

- Programme related matters

Lecturers/ Professors

e.g. thematic questions, literature and learning material etc.

Programme coordinators / Study advisors

e.g. study planning, decisions, setting priorities, examination regulations, credits etc.

- General matters

Registration office (in SCS)

e.g. advice for international students, preliminary certification by the university, issue of certificates for international students, questions about leave of absence and tuition fees etc.

→ **https://www.studium.uni-freiburg.de/en/student-services/registration-office**

Central Academic Advising (in SCS)

e.g. motivation, reorientation, decision-making, learning process, study organisation, stress, crises etc.

- confidential, anonymous if necessary, neutral
- If needed, referral to other contact persons (representative for students with chronic illness/disability, employment agency etc.)

→ **https://www.studium.uni-freiburg.de/en/counseling**

When writing an e-mail to an advisor or the examination office…

- Please do use a subject – preferably a sensible one
- Assume we do not know you, and we are not clairvoyant.
  So, please sign the email with your full name; your matriculation number can also be helpful, and it would be great if you mention your study programme…
- Use full names of professors, supervisors or lecturers
  (we are not on first name base with everyone at the faculty)
- Please write a new mail to the person you wish to contact.
  Don’t “answer” to general information mails from us, if it’s not a direct question about the content of that mail.
- If it is urgent, indicate this in the subject line! Our responses to mails not classified as urgent can take quite a while and we try to prioritize.

Checklist of important things to remember:

According to the pool managers, the account information will be mailed to you next week.

- Set up your Faculty account correctly; forward those emails!
- Learn about and observe the various deadlines:
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/calendar-dates
- Register for ***all the elements*** *(especially all the assessments)* in a module you want to complete (not just in lectures, but also in seminars or lab courses)
- Know your exam regulations!
- Learn about registration for seminars and projects:
  https://www.tf.uni-freiburg.de/en/studies-and-teaching/a-to-z-study-faq
- Re-enroll for the next semester
  https://www.studium.uni-freiburg.de/en/student-services/registration
- Contact someone when in need of help:
  https://www.tf.uni-freiburg.de/en/study-programs/counseling

Have a good start!

And remember to meet your Campus tour guide here in this lecture hall!