University of Stuttgart
Germany

Institut für
Maschinelle
Sprachverarbeitung

WELCOME

to the program

Master of Science

Computational Linguistics

Stefanie Anstein

October 2023

Overview

1. Introduction – who we are ...
2. Program of study: M.Sc. CL
3. Further useful information
4. Next steps

Introduction – who we are ...

IMS chairs / departments / research clusters

- **Prof. Sebastian Padó**, PD Dr. Klinger & many more:

  computational semantics / (word) meaning, multilinguality, text mining, social media analysis, computational social science, discourse studies & much more

- **Prof. Jonas Kuhn**, Prof. Schulte i. W. & many more:

  structural processing / syntax, text studies, semantic relations, computational social science, digital humanities, research infrastructure & much more

- **Prof. Thang Vu**, Dr. Schweitzer, Dr. Wokurek & many more:

  digital phonetics, speech recognition/synthesis, spoken language understanding, dialogue systems, deep learning & much more

- **Jun.-Prof. Carina Silberer** & her group:

  semantic models via machine learning, language and vision, grounding, computational semantics & much more

More IMS research groups and associated teams

- **Emmy Noether Group** 'Computational Models of Misunderstanding':
  Dr. Michael Roth
- **BMBF group E-DELIB**
  'Powering up E-DELIBeration: towards AI-supported moderation':
  Dr. Gabriella Lapesa
- **Junior professorship** 'Psycholinguistics and Cognitive Modeling':
  Jun.-Prof. Dr. Titus von der Malsburg
  - human sentence comprehension
  - experimental research using eye-tracking, large-scale crowdsourcing, electric brain potentials etc.
  - computational cognitive modeling
- **SimTech Tenure-Track Professorship** 'Computational Cognitive Science':
  Jun.-Prof. Dr. Benedikt Ehinger
  - visual cognitive science
  - behavioral, EEG and eye-tracking experiments
  - statistical modelling
- ... and many more

Student representatives MSV / CL

www.msv-cl.de

ISP of our Faculty

International Service Point Faculty 5

Complementary to the services of the university's International Office:

- Support and contact point for the faculty's international students
- Promoting further internationalization at Faculty 5
- Events & networking activities for and with international students

Stay informed!

ISP Website * Monthly mailing *

Follow Meta & Laura on LinkedIn

Meta Geisbüsch, LL.M. & Laura Busch, M.A.

University of Stuttgart
International Service Point (ISP) | Faculty 5
Pfaffenwaldring 47 | Room 4.270
+49 (0)711 685 -67926 / -67277
internationalstudents@f05.uni-stuttgart.de

Our monthly mailing!

Stay up to date on **important information and events for international students of our faculty**!

ISP International Service Point

NEW FÜSQ: Intercultural Training in Academic Context - An Overview of German Particularities in Academic Life, Communication and Understanding

- **Special offer for international students of Faculty 5 – *for free*!** - organized by the Language Center (SZ)
- Get important information and useful advice on how to make your studies in Germany a success!
- Workshop dates (2 weekends): Nov. 25./26. and Dec. 9./10.
- Credits (FÜSQ)
- Limited places!
- **Registration on C@mpus: Oct. 9-18, 2023**

Upcoming events for International students of Faculty 5

ISP International Service Point

- **International Days** | Nov. 14 - Nov. 17

  among others: Career Workshop for International Students | Indian Night | Going Abroad Session | Training „How to survive in Germany“ ᴍ

- **Semester Opening** | Nov. 30

- **Working in the Stuttgart Region** | Jan. 24

- **Company Visits:**
  ads-tec Energy GmbH | Dec. 8, 2023
  Bosch Research | Jan. 26, 2024

- *To be continued…*

Program of study: M.Sc. CL

Program of study

- regular duration: 4 semesters (max. duration: 9 sem.)
- consists of several **modules**
  - module duration: 1-2 semesters
  - can contain 1 (or more) **course(s)**
    (= lectures, seminars, lab sessions ...)
- module descriptions: module handbook (PDF; via book icon in C@MPUS – "My Study Program")
- ECTS credit point (CP) = *Leistungspunkt* (LP)
  - measurement of working load (1 CP = 30h) & weight for the calculation of the final M.Sc. grade
  - 2 SWS/SH/SSt = 1,5h/week = usually 3 CP/semester
    (there are exceptions, e.g. the "Project Seminar CL" or modules from the linguistics department)
  - 120 CP needed for M.Sc. degree;
    30 CP per semester = 20 SWS = 10 x 1,5h per week
  - are given for complete modules

Study plan suggestion (flexible!)

program structure MSc CL PO 2017, Uni Stuttgart

Semester	Obligatory modules	Elective modules	Other	ETCS Credit Points
1 (WiSe)*	**Methods in CL** ** [8SWS*** 12CP]	**Elective courses** worth ca. 18CP		30
2 (SoSe)*	**CL Team Lab** ° *[4SWS 6CP]*	**Elective courses** worth ca. 18CP	**Key competences** °° *[2SWS 3CP]*	27
3 (WiSe)*	**CL Research Module** ** [4SWS 9CP]	**Elective courses** worth ca. 24CP		33
4 (SoSe)*	**Master's thesis** [30CP]			30
Colour key:	IMS	IMS & Computer Science / Linguistics Departments	across UniS	

*) For a start in the summer semester, it is recommended to interchange obligatory modules.
However, the CL Team Lab is not recommended for 1st semester students without background in CL.

**) Offered in winter semesters

***) 2 SWS = 1,5h/week

°) Offered in summer semesters

°°) Is also possible in any other semester

(Suggestion for non-CL graduates starting in summer)

recommendation for non-CL graduates starting in summer term				
Semester	**Obligatory modules**	**Elective * modules**	**Other**	**ETCS Credit Points (CP)**
1 (SoSe)		**Elective courses** worth ca. 30CP		**30**
2 (WiSe)	**Methods in CL** ** [8SWS*** 12CP]	**Elective courses** worth ca. 3CP	**Key competences** °° *[2SWS 3CP]*	**27**
	CL Research Module ** [4SWS 9CP]			
3 (SoSe)	**CL Team Lab** ° *[4SWS 6CP]*	**Elective courses** worth ca. 27CP		**33**
4 (WiSe)	**Master's thesis** [30CP]			**30**
Colour key:	IMS	IMS & Computer Science / Linguistics Departments	across UniS	

*) choose 1 of 3 subcatalogs from Electives/CompLing/ as primary catalog with min. 18 CP, the other 2 with min. 6 CP each

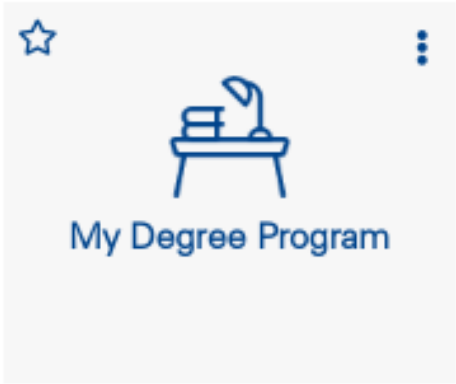
**) offered in winter semesters

***) 2 SWS/SH = 1,5h/week

°) offered in summer semesters

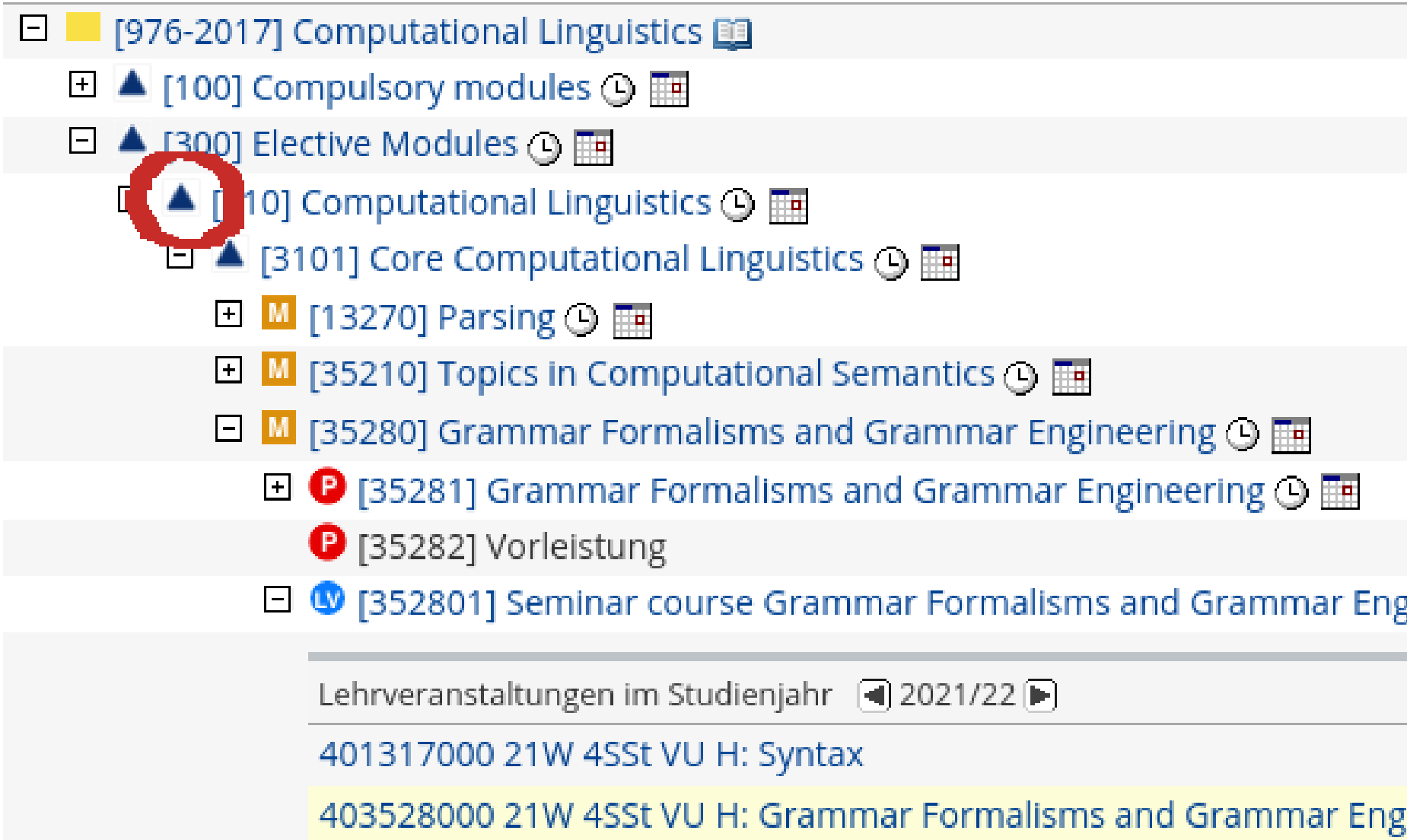
°°) also possible in semesters 3 or 4

Terminology: catalogs vs. modules vs. courses

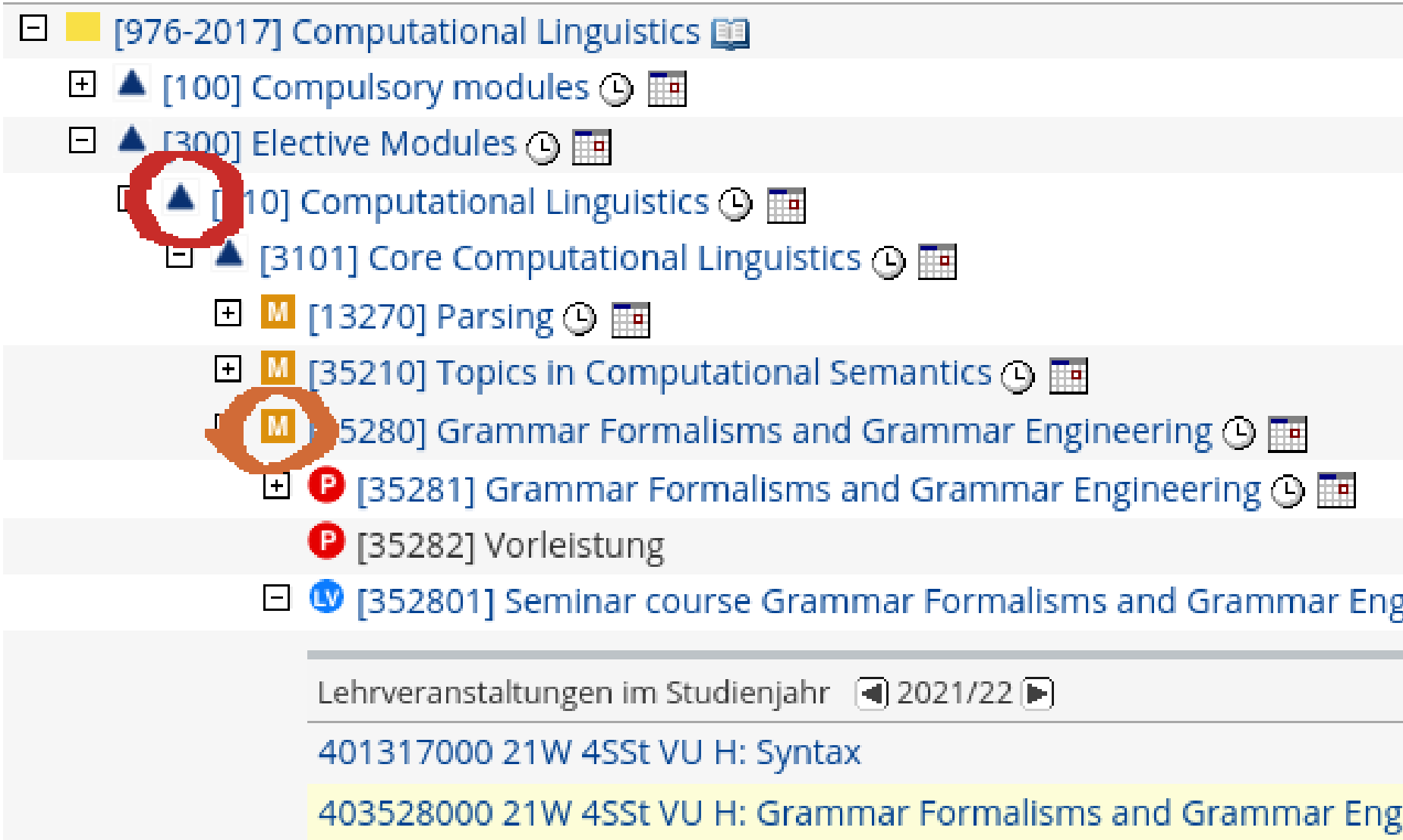


- [976-2017] Computational Linguistics
  - [100] Compulsory modules
  - [300] Elective Modules
    - [310] Computational Linguistics
      - [3101] Core Computational Linguistics
        - [13270] Parsing
        - [35210] Topics in Computational Semantics
        - [35280] Grammar Formalisms and Grammar Engineering
          - [35281] Grammar Formalisms and Grammar Engineering
          - [35282] Vorleistung
          - [352801] Seminar course Grammar Formalisms and Grammar Eng

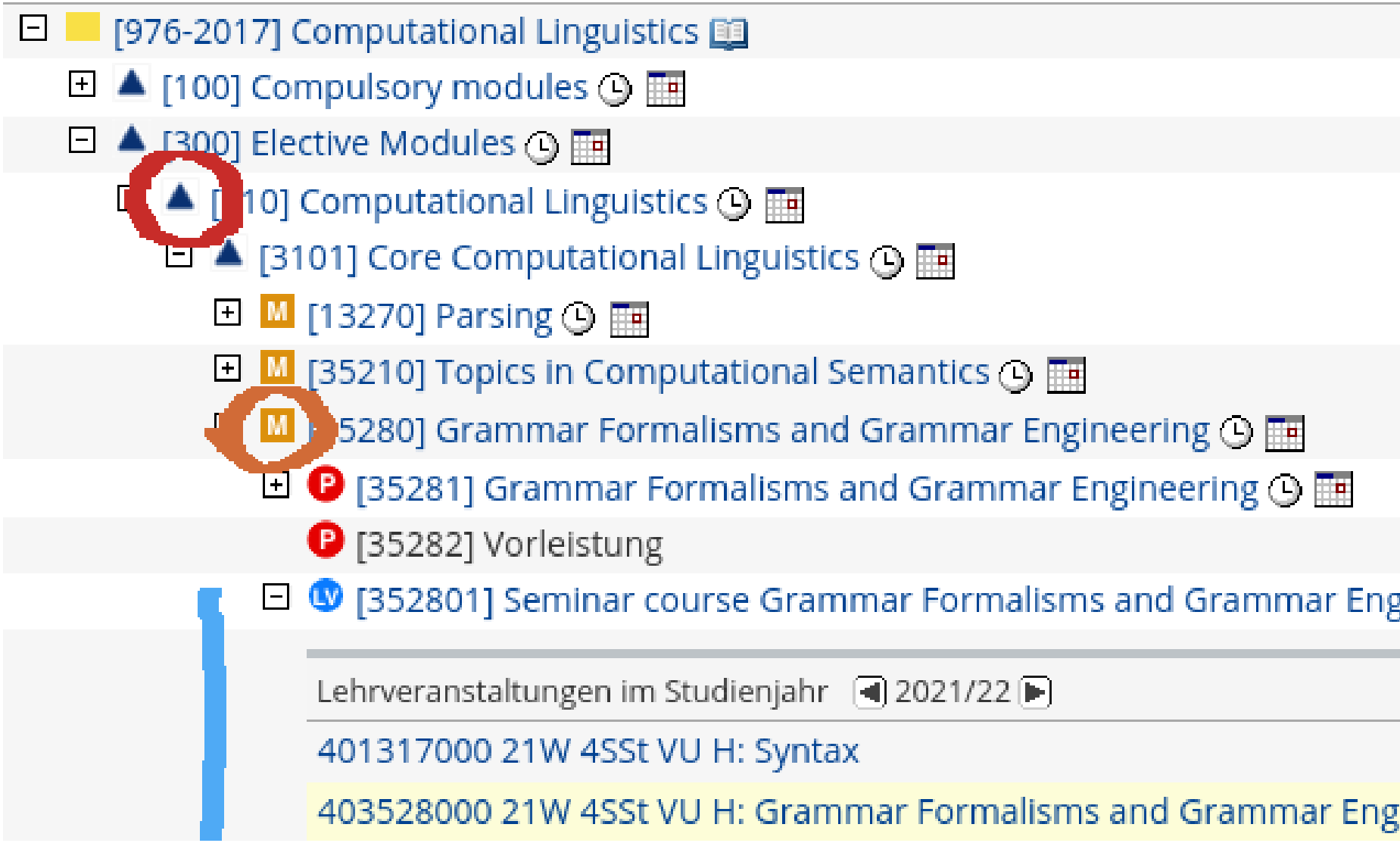
Catalogs vs. modules vs. courses



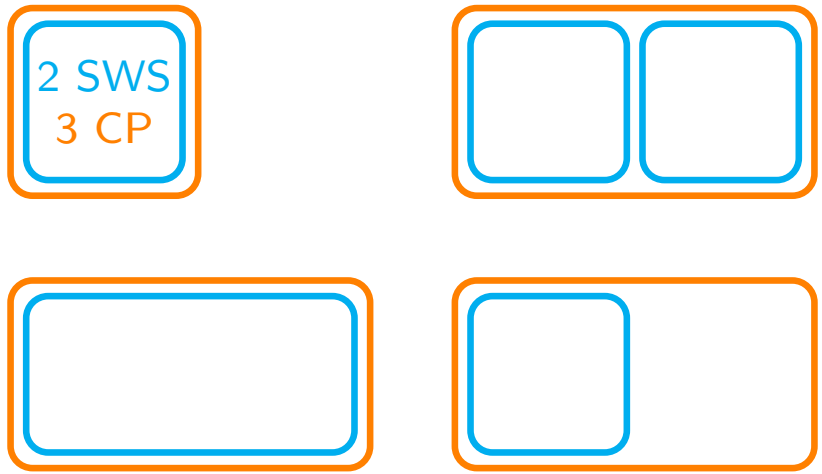
Catalogs vs. modules vs. courses



Catalogs vs. modules vs. courses

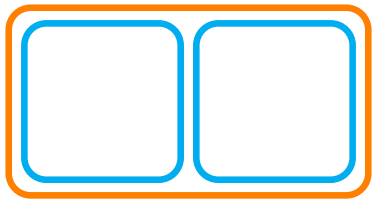


Important: course-module mapping



(Project Seminar CL,
Ling Electives)

Combination modules: choose 2 courses from list



[73330] Topics in Natural Language Processing

[73331] Topics in Natural Language Processing

[733301] Topics in Natural Language Processing, lecture

Lectures in acadamic year ◀ 2022/23 ▶	Part
403160510 22W 2SH S Knowledge Base Population in Practice	⊗
403529010 22W 2SH S Evidence-based Automatic Fact-Checking	⊗
403000040 23S 2SH S Argument Mining	⊕
403513500 23S 2SH S Language Technology for Diversity & Inclusion	⊕
403528002 23S 2SH LE Multimodal Semantics	⊕
403848900 23S 2SH S Model projection	⊕
406351600 23S 2SH S Multilinguality and linguistic typology in NLP	⊕

Project seminar CL: extend a 3-CP course to 6 CP

[724301] Project Seminar Computational Linguistics

Lectures in acadamic year 2022/23	Part
403539000 22W 2SH L Experimental Phonetics	
171235450 23S 2SH AS Acquisition and analysis of eye-tracking data (SoSe 2023)	
401516000 23S 2SH L Ethics and NLP	
401516003 23S 2SH S Formal and Computational Approaches to Narrative	
403513500 23S 2SH S Language Technology for Diversity & Inclusion	
403519001 23S 2SH S The psycholinguistics of neural language models	

Program of study ctd.

Details about modules

- "Methods in Computational Linguistics"
  (12 credit points; first (winter) semester; highest priority!)
  - option for MSV/CL graduates: choose 2 advanced courses instead
    - Introduction to Deep Learning for Speech and Language Processing (winter)
    - Statistical Dependency Parsing (usually winter, needs to be paused this term)
    - Grammar Formalisms and Grammar Engineering (winter; not for Stuttgart MSV graduates)
    - Text Technology (summer)
    - Machine Translation (summer)
- "Computational Linguistics Team Laboratory"
  (6 credit points; second (summer) semester)

Program of study ctd.

Elective modules (60 credit points)

- choose 1 primary sub-catalog (at least 18 credit points) and 2 secondary catalogs (at least 6 credit points each) from the "Computational Linguistics" catalog
- choose primary/secondary catalogs from
  - Core Computational Linguistics
  - Applied Natural Language Processing
  - Speech Processing
- the remaining modules (30 credit points) can be choosen freely from all offered catalogs (largest choice: Computer Science)
- NB: Linguistics modules are *not* meant for combination: their requirements depend on their size (different paper lengths for different number of credits)

Program of study ctd.

Elective modules (60 credit points)

- if a module is not (yet) listed in our module handbook, ask S. Anstein if it can be imported (12 CP from Bachelor programs possible)
- special module: "Project Seminar Computational Linguistics" (2 SWS $\rightarrow$ 6 CP by doing additional project on top of an IMS seminar)
- special module: "R&D Practical Project for CL" (6 CP for external internship or independent research project)
- Erasmus CPs can also be used as electives

Please note: Each course can be used only once – to prove this and to help us entering your grades, you'll need to submit your course-module mapping each semester (see email reminder). You can find the possible mappings in C@MPUS (via "Course catalog" – "Status within Curriculum").

Program of study ctd.

Key competences (3 credit points)

- modules for general competences ("Schlüsselqualifikation" = SQ)
  - e. g. presentation modalities,
    time / project / knowledge management, ...
  - can be done in any semester; only online registration possible
    before semester start: `http://www.uni-stuttgart.de/sq`
  - can be found in C@MPUS at "Central facilities – Central Facility Zentrum für Lehre und Weiterbildung der Universität Stuttgart – Central office Fachübergreifende Schlüsselqualifikationen – Courses"
  - possible at the Language Center: advanced language courses
  - Language Center also offers SQ courses during semester breaks
  - You'll get an email with the registration dates!

Program of study ctd.

Later obligatory modules

- Research module (9 credit points)
  - Research seminar
    - preparing Master's thesis: reading research papers, possibly finding topic for your thesis; grade: writing proposal & presenting thesis & passing oral exam
    - can be taken "remotely" (studying abroad, internship)
    - should be taken in 2nd semester by students who started in summer term
- Master's thesis (30 credit points)
  - need at least 60 credit points to start with Master's thesis

Please note: This is an idealised scheme of the program – you can do it differently, just don't exceed the maximum duration of 9 semesters!
For students who start in summer term, an individual plan can be developed together with S. Anstein (according to your background).

Further useful information

Useful information

- German language course / "tandem" advisable
  - binding version of University documents: in German
  - to make the most of your life in Germany :)
  - check C@MPUS > Central Facilities > Language Center > German > Section I: German as a Foreign Language: Interdisciplinary Key Qualifications (FSQ) > German as a Foreign Language: Special offer for study programs
- some students got an "admission with requirements" (*Auflagen*)
  - see C@MPUS account; recommended to take the oral exam asap (self-studying) / programming course available in winter (no credits)
  - please register in Nov/May; you will get another email with more information
- please participate in evaluations
  - course evaluations, carried out during semester
  - module evaluations, carried out after end of semester/exams (by email)

Useful information ctd.

- exam regulations (binding version: German; indicative translation link see handout)
  - important information is also available in English on the websites and on the handout (if in doubt, please ask!)
  - describe obligatory modules & define electives
  - determine number of possible repetitions and maximum length of the study, extensions and exceptions etc. (for academic accommodations due to special circumstances see also `https://www.student.uni-stuttgart.de/en/organizing-studies/disability`)
- exams
  - written or oral exam (during the semester or at the end of the semester)
  - ungraded exam: passed / failed
  - graded exam:
    1,0 (excellent) / 1,3 / 1,7 ...– 4,0 (acceptable)
  - hint: there might be some preconditions to fulfill in order to be allowed to take part in an exam, e.g. exercises etc.

Useful information ctd.

- registration for exams / **modules**
  - exact exam dates are announced in the lectures (can also take place in lecture-free period!)
  - register online in C@MPUS
  - each exam has to be registered during the registration period (as announced by the University: May/June & November/December) – otherwise participation is not possible (screenshot of registrations recommended)

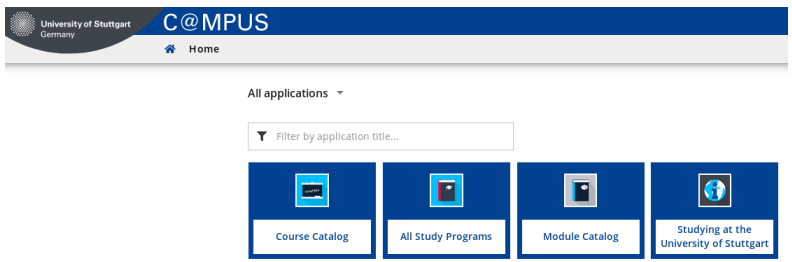
Useful information ctd.

- postponing / repeating exams
  - you can only repeat exams you have failed
  - you can withdraw from an exam until 7 days before the exam takes place (otherwise, a medical certificate is needed as soon as possible in order for the exam not to count as "failed")
  - failed exams can be repeated once; this has to be done within 2 semesters; re-registration necessary!
  - 2 failed modules can be dropped
  - a second repetition of a module exam (type "PL", see module handbook) is only allowed in 3 cases in total

15. Lehrveranstaltungen und -formen:	• 723801 Lectures with exercises Methods in Computational Linguistics
16. Abschätzung Arbeitsaufwand:	lecture and exercises
17. Prüfungsnummer/n und -name:	• 72381 Methods in Computational Linguistics (PL), , Gewichtung: 1 • V Vorleistung (USL-V), • Methods in Computational Linguistics, Prüfungsleistung (PL), Schriftlich oder Mündlich, Gewichtung: 1

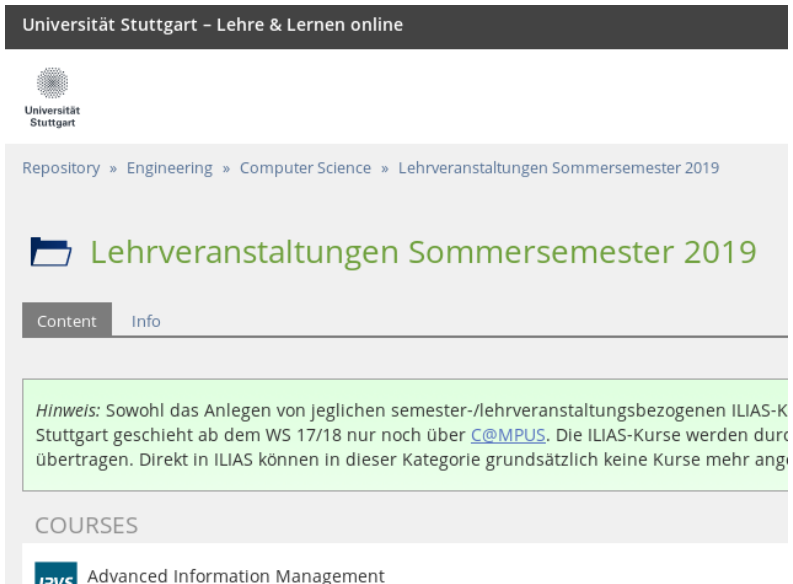
Useful information ctd.

- C@MPUS online portal
  - contains all currently offered courses (+ descriptions) and the modules (+ descriptions) they can be used for
  - personal timetable can be created (by registering for courses: non-binding)
  - (de-)registration for exams (binding)
  - document downloads: transcript, enrollment certificate
  - `https://campus.uni-stuttgart.de`



Useful information ctd.

- ILIAS platform
  - is used to share information (slides, literature, ...) for courses (provided by the lecturers)
  - when you register the course in C@MPUS you will automatically be in the corresponding ILIAS course (if there is one for this course)
  - please also join the group "Studying @ IMS" for various useful information (including forum "Ask me anything"): path: Repository – Engineering – Maschinelle Sprachverarbeitung / Computational Linguistics – Arbeitsgruppen – Studying @ IMS
  - `http://ilias3.uni-stuttgart.de`



Useful information ctd.

- more important information on the IMS website
  `http://www.ims.uni-stuttgart.de`
  - student FAQs & lecturers / staff contact data
  - projects & publications
  - events & news, etc.
- more space in (computer) working areas in Pfaffenwaldring 5c and in Universitätsstraße 38
- honor code: not to plagiarize (worst case: plagiarism can lead to exmatriculation)
- please read the IMS code of conduct: `www.msv-cl.de/code-of-conduct`
- MINTFIT: online tests and courses for math and computer science:
  `https://www.mintfit.hamburg/en`
- open learning space for maths and computer science questions:
  `www.mint.uni-stuttgart.de/angebote/offener-lernraum`
- "Makerspace" on campus Vaihingen for conducting individual projects: `https://uni-stuttgart.de/maked-digital`

Useful information ctd.

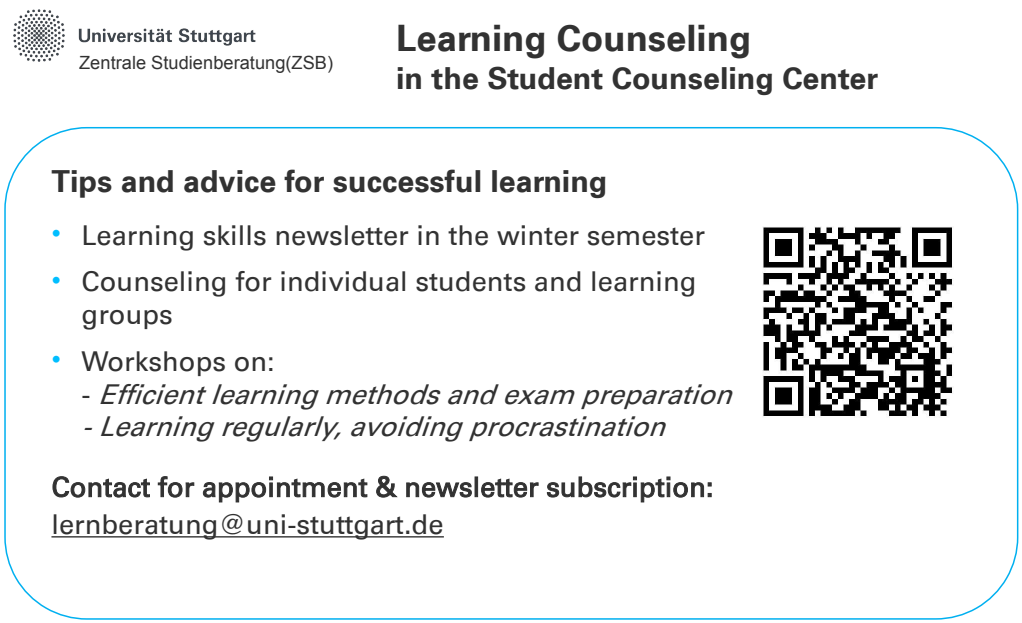
Further institutions at the university to get information & help:

- Examination Office (*Prüfungsamt*)
  - Pfaffenwaldring 5c, 3rd floor
- Admissions Office (*Studiensekretariat*)
  - German students: Pfaffenwaldring 5c, 2nd floor
  - foreign students: Pfaffenwaldring 5c, 1st floor
- International Office (*Internationales Zentrum*), PWR 60
  - welcome service – get your welcome package!
  - international mentoring, learning groups, psycho-social counselling, student associations, leisure activities, help with German forms etc.
  - `www.uni-stuttgart.de/en/university/international/service`
- International Service Point of faculty 5 for general questions (complementary to the services of the university's IZ/IO:)
  - `www.f05.uni-stuttgart.de/studium/international-service-point`
- Service point "uni & family", e.g. for maternity protection
  - `www.uni-stuttgart.de/en/study/counseling/children`

Useful information ctd.

Further institutions at the university to get information & help:

- Student Counseling Center (*Zentrale Studienberatung*), PWR 5c
  - general and specific questions, e.g. disabilities, chronic illness
  - contact point for all unclear issues
  - courses on studying efficiently etc., see `www.student.uni-stuttgart.de/en/counseling/zsb/learning-counseling/`



Useful information ctd.

Further institutions at the university to get information & help:

- Student Services (*Studierendenwerk*)
  - housing (make sure you stay on waiting list!), childcare, legal advice, social advice, psychological support, finances, disabilities, ...
- "Ombudsperson": a neutral and confidential contact person for people in need of support in university conflicts:
  `www.student.uni-stuttgart.de/en/counseling/ombudsperson`

Useful information ctd.

Further institutions outside the university to get information & help:

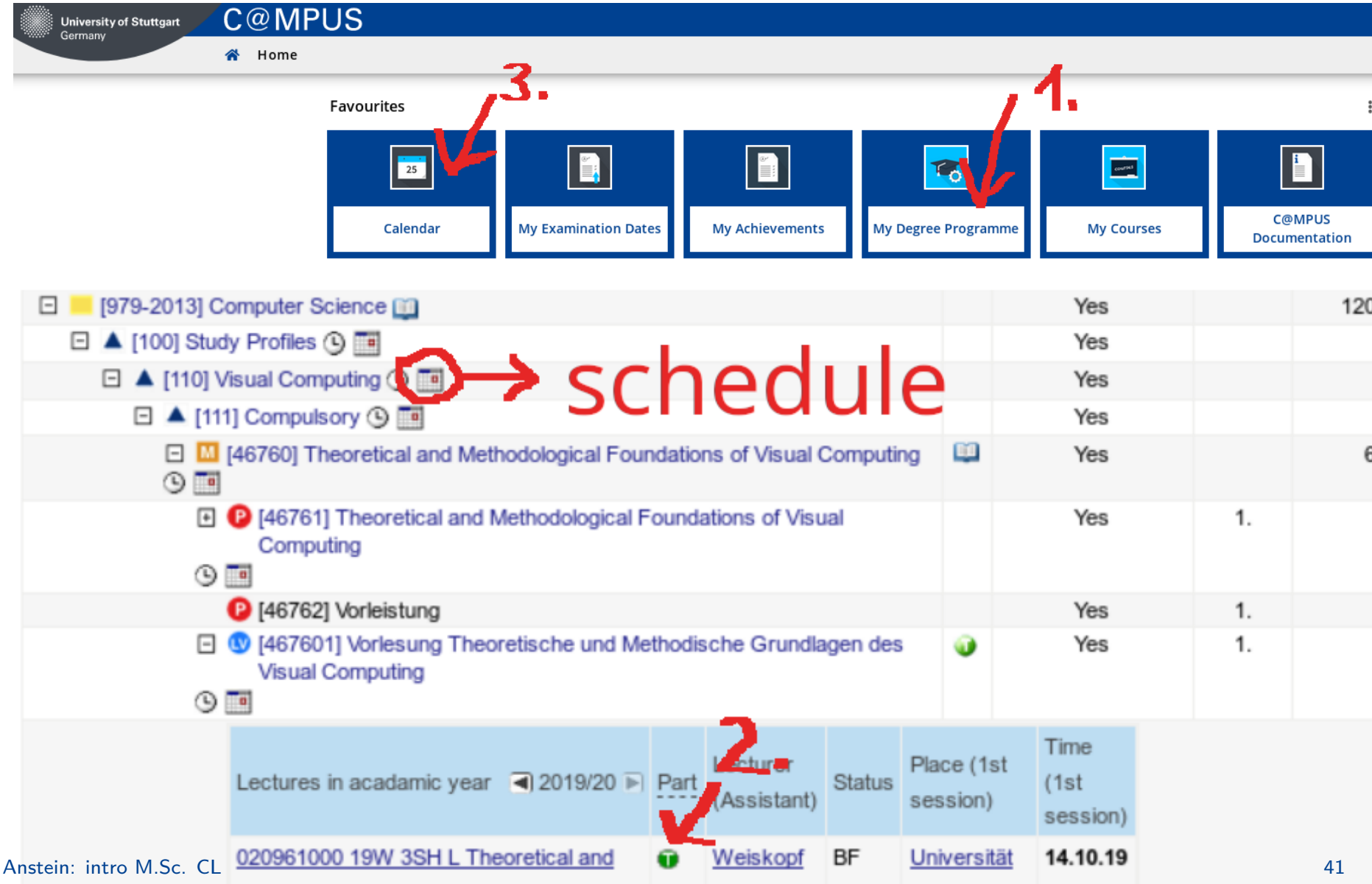
- Welcome Center Stuttgart
  (`https://welcome.stuttgart.de/welcomecenter/en/`)
  - help in many areas for new students: Welcome Club, Job Centre etc.
- German job centre 'Agentur für Arbeit':
  https://www.arbeitsagentur.de/en/welcome (student job board, application document check etc.)
- Nightline Tübingen: an anonymous, confidential, unprejudiced and independent evening hotline (also available in English):
  `https://nightline-tuebingen.de/`

Next steps

For you to do ...

- take a look at
  - the current course offerings for CL in C@MPUS:
    in the curriculum tree view, click on the calendar icons to see all current courses in that catalog
    - choose around 30 CP / 20 SWS / 10 slots (check course combinations for modules)
    - hint for non-CL graduates: rather choose „lectures“ and overview / introductory courses in the beginning and „seminars“ on very specific topics only in the later course of studies (courses show specific prerequisites in C@MPUS; default: basic CL skills)
    - if you plan to focus on machine learning, work on your maths ...

Finding your courses via C@MPUS:



Some dates to save ...

- IMS **Student Meeting** with Prof. Padó:
  Thursday, Nov 9, 1:10-1:50pm
- binding module **exam registration period**: Nov 15 - Dec 7
- very important **exam registration info meeting**:
  Monday, Nov 20, 1:10-1:50pm
- public holiday (shops etc. closed!):
  November 01, 2023
- lecture break: December 23, 2023, to January 07, 2023
- (see `https://www.uni-stuttgart.de/en/study/application/academic-calendar`)

Communication & responsibility ...

We rely on you **reading all your emails**, taking decisions, being pro-active, possibly extending your comfort zone ...!

- st12345@stud.uni-stutt... address `https://www.tik.uni-stuttgart.de/en/services-a-z/e-mail-00002`
- ILIAS email account (forwarding possible)
- all enrolled students will get an **IMS user account**
  - linux tutorial see `https://www.ims.uni-stuttgart.de/documents/team/schweitz/docs/linux.tutorial.pdf`
  - including an email account: firstname.lastname@ims.uni-stuttgart.de
  - you'll get an info e-mail to st address (default forwarding to st address)
  - student GPU servers
    - strauss, kiwi, nandu
    - If you use a student GPU server, make sure to be mindful of other people wanting to use it too. (With the command nvidia-smi you can see which GPUs have free capacity.)

In case of any questions ... (1/3)

... please ask:

- **Stefanie Anstein**
  degree program manager, student advisor &
  contact person examination committee
  - office: 01.006 in Pfaffenwaldring 5b
  - `stefanie.anstein@ims.uni-stuttgart.de`
  - +49 (0)711 68581387
  - `www.ims.uni-stuttgart.de/institut/team/Anstein-00002`
  - IMS FAQ page: `www.ims.uni-stuttgart.de/en/teaching`

If in doubt, please ask – the sooner the better ... :)
(... and please use cc instead of single e-mails
whenever you contact several persons, thanks.)

By the way, we're always grateful for feedback about
how we could improve our services (websites, advising etc.)!

In case of any questions ... (2/3)

... please ask:

- the coordinators of the International Service Point (ISP) of faculty 5 **Meta & Laura**:
- contact
  - internationalstudents@f05.uni-stuttgart.de
  - +49 (0)711 68567926 (Meta) / +49 (0)711 685 67277 (Laura)
  - in person during their office hours in Pfaffenwaldring 47, Room 4.270 or online (on appointment)

In case of any questions ... (3/3)

... please ask:

- our student representatives (room 00.015; fscl@listserv.uni-stuttgart.de; msv-cl.de – facebook groups and discord server)

And now ...

- Follow us on our little virtual guided tour via
  `https://youtu.be/W-jEeIyjrUE` ...
- Ask questions, if there are any ...

Welcome at the IMS!