# How to Master: The ultimate guide for your studies

By the world's best student representatives

always and forever

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# 15 Appendix

# **1** Frequently Asked Questions

# 1.1 ... regarding your Study Plan / Study Program:

#### 1.1.1 Which courses do I need to take?

Chapter 2 (section 2.4) addresses this issue.

In chapter 15 you can find a list on courses and prerequisites as well.

#### 1.1.2 Do I really need to go for 30 CP in my first semester?

You are free in your mapping of CPs onto semesters.

Following the recommended study plan (see section 2.4) is certainly the most convenient solution, but doing fewer CPs per semester (e.g. because you work parallel to your studies) is absolutely fine too.

# **1.1.3** How do I create my timetable? / How do I figure out when and where my courses will take place?

Once you are registered for your courses, C@mpus will create your timetable automatically. You can access it via the C@mpus homepage.

## 1.2 ... regarding Modules, Courses, Key Competences and the Module Table

### 1.2.1 What are modules and how are they related to courses?

Modules consist of one or more courses, whose names may differ from the module name.

For example, the module Topics in NLP contains the course Language and Vision.

### 1.2.2 Where can I find the *module handbook*?

The module handbook can be accessed via C@mpus and contains information on modules and courses.

Also, in section 14.2, you can find a link to the most recent module table.

#### 1.2.3 What is the *module table* and where do I find it?

The module table is used for the mapping between modules and courses.

For more information see section 2.3.

# **1.2.4** What should I do if I am not enrolled yet and cannot register for courses? / How do I get course material if I'm not enrolled?

Don't panic! The course registration is still possible at a later point.

Just ask your fellow students or your lecturer for the relevant materials and links, they'll surely help you out.

#### 1.2.5 How do I register for courses?

A rough tutorial can be found in the Introductory\_slides.

#### 1.2.6 What are key competences?

Key competences (*Schlüsselqualifikationen*) are 3 CP courses designed for teaching you a non subject-specific skill.

These include e.g. a language, writing skills or many other interesting things.

More information about key competences can be found via the following links:

```
General_Information
Language_and_Writing_Key_Competences
```

More Key Competences can be found via C@mpus.

## 1.3 ... regarding Examinations and Exam Registrations:

#### 1.3.1 Is a course registration binding? / If I register for a course, do I need to take the exam?

The course registration is not binding, i. e. you don't have to take the exam if you don't want to.

#### 1.3.2 When and how do I register for exams?

Only during the registration period and only via C@mpus. Details in section 4.1.

#### 1.3.3 What if I can't or don't want to attend an exam?

Up to 7 days prior to an exam you can deregister without specifying a reason.

To deregister during the 7 days leading up to the exam visit section 4.2.

#### 1.3.4 What happens if I fail an exam?

You may (usually) try again. Specific information in section 4.3.

# 1.4 ... regarding C@mpus, Ilias and Webex:

#### 1.4.1 What do I use C@mpus for?

Among other things, C@mpus is used for registering for exams and courses, viewing your exam results and accessing important documents like the ECUS stamp, your transcript of records or a confirmation of enrollment. C@mpus is also the place to go, to create and view your timetable.

C@mpus guide: Guide.

Link to introductory slides: C@mpus.

#### 1.4.2 What do I use Ilias for?

In Ilias you can access your courses and course materials. The lecturers will mainly use Ilias to spread information regarding the courses.

Introduction to Ilias: Guide (available in German only).

#### 1.4.3 What is Webex and how do I use it?

Webex is a tool used for web conferences.

A detailed Webex guide can be found here: Webex\_Guide.

#### 1.5 ... regarding Mails:

1.5.1 How can I access my mails and how do I forward them to my private mail address?

Details regarding emails and forwarding them can be found in Section 6 and 14.6.

#### **1.6** ... regarding Python, Linux etc.:

#### 1.6.1 Where can I find an introduction to Python?

There is some good material online. Beginners might want to start with *Automate the Boring Stuff*, as you can access it for free online as PDF (see section 8).

#### 1.6.2 What is Linux and how does it work?

You can find an excellent introduction to Linux by Antje Schweitzer in section 8.

# 1.7 ... regarding Eduroam, SSH and VPN:

#### 1.7.1 What is eduroam and how do I use it?

Eduroam allows you to use Wi-Fi on the university campus.

A detailed guide on how to install and use eduroam can be found here: Eduroam\_Guide.

#### 1.7.2 How do I log into the IMS computers using SSH?

A detailed guide on using SSH can be found in section 10.

#### 1.7.3 VPN - What do I need it for?

You need a VPN to access certain online services of the university, e.g. for the e-books in the library (see section 12).

Sometimes you also need it to access exercises.

A detailed guide on VPN: VPN-Guide.

# **1.8 Further Questions:**

# 1.8.1 Where can I find exams from past semesters?

The student representatives have documents and old exams of many courses, if needed just ask, preferably via mail to fscl@ims.uni-stuttgart.de.

# 2 Study plan and general information on your studies

#### 2.1 Duration of your studies

The standard period of study (*Regelstudienzeit*) is **4 semesters**. The maximum duration is **9 semesters**.

### 2.2 ECTS-Points / Credit points (CP) and Semesterwochenstunden (SWS)

#### **Translating Credit points into hours:**

- -1 CP = 30 minutes lecture time per week = approx. 30 hours of work in total
- -2 SWS = 1 slot (lecture, exercise, etc.) = 90 minutes

# Courses at the IMS usually consist of 3 or 6 CP; while some may be worth even 9 CP or more:

- 3 CP = 90 minutes lecture = 1 slot = 2 Semesterwochenstunden (SWS)
- 6 CP = 120 minutes lecture = 2 slots = 4 SWS
- 9 CP = 210 minutes lecture = 3 slots = 6 SWS

### In total:

- To successfully complete your master studies you'll need a total of 120 CP.
- If you choose to finish your master within the standard duration (4 semesters) this would mean approx. 30 CP per semester = 20 SWS = 10 slots (x 1.5 hours per week).
- Note: CP will be awarded as soon as the last examination for the module has been successfully passed.

# 2.3 Course - Module Mapping: Module table

Since some modules consist of two (or more) courses, you need to map your courses and modules.

Therefore, you'll (probably) have to fill out the so called Module Table (Modultabelle).

The module table should be filled out, edited and/or completed for each semester.

For more information on modules and on courses see sections 3.2 and 3.3.

A link to a downloadable version of the Module Table (.xlsx - File) can be found here: Module\_Table.

In case of doubt, please contact Stefanie Anstein.

# 2.4 Study plan (suggestion)

The link to the study plan seen in figure 1 can be found here: Study\_Plan\_Link.

#### M.Sc. "Computational Linguistics"

Study plan: suggestion

program structure	MSc CL	PO 2017,	Uni Stuttgart
-------------------	--------	----------	---------------

Obligatory modules	Elective modules	Other	ETCS Credit Points
Methods in CL ** [8SWS*** 12CP]	Elective courses worth ca. 18CP		30
CL Team Lab ° [4SWS 6CP]	Elective courses worth ca. 18CP	Key competences <sup>or</sup> [2SWS 3CP]	27
CL Research Module ** [4SWS 9CP]	Elective courses worth ca. 24CP		33
Master's thesis [30CP]			30
IMS	IMS & Computer Science / Linguistics Departments	across UniS	
	Methods in CL ** [8SWS*** 12CP] CL Team Lab ° [4SWS 6CP] CL Research Module ** [4SWS 9CP] Master's thesis [30CP]	Methods in CL ** [8SWS*** 12CP]       Elective courses worth ca.         CL Team Lab ° [4SWS 6CP]       Elective courses worth ca.         CL Research Module **       [4SWS         9CP]       [4SWS         Master's thesis [30CP]       IMS & Computer Science /	Methods in CL ** [8SWS*** 12CP]     Elective courses worth ca. 18CP     Key competences ** [2SWS 3CP]       CL Team Lab ° [4SWS 6CP]     Elective courses worth ca. 18CP     Key competences ** [2SWS 3CP]       CL Research Module **     [4SWS     Elective courses worth ca. 24CP     Key competences **       Master's thesis [30CP]     IMS & Computer Science /     across UniS

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

Figure 1: Study plan for M.Sc. CL

#### 1. Semester (suggestion):

- Obligatory Module: Methods in Computational Linguistics worth 12 CP
  - Non-CL background / for those who have to take the requirement module (Auflagenmodul): choose Methods in CL only
  - CL background / no requirement module (*Auflagenmodul*): either take *Methods in CL* or choose 2 courses from the list, i.e. worth 12 CP
- Elective Modules: choose courses worth 18 CP total

### 2. Semester (suggestion):

- Obligatory Module: CL Team Lab worth 6 CP; choose one of the following, either
  - CL Team Lab Phonetics (Prof. Dr. Ngoc Thang Vu) or
  - CL Team Lab (Dr. Roman Klinger)
- Elective Modules: choose courses worth 18 CP total
- Key competences: choose 1 key competence worth 3 CP from the C@mpus catalogue

#### 3. Semester (suggestion):

- Obligatory Module: CL Research Module worth 9 CP
- Elective Modules: choose courses worth 18 CP total

#### 4. Semester (suggestion):

• Obligatory Module: Master's Thesis worth 30 CP

#### 2.5 Semester abroad

The International Office (*Dezernat Internationales*) offers spending a semester abroad for interested students.

General information regarding a semester abroad can be found here: Semester\_Abroad.

Information on exchange opportunities can be found here: Exchange\_Opportunities.

## 2.6 Checklist: Are you done with your studies? - You need to ...

- ... have **120 CP** in total.
- ... have at least **18 CP** in your primary and **6 CP** in your two secondary catalogues (cf. section 3).
- ... pass at least one Key Competence (you can do more, if you like to).
- ... pass the **requirements module** *Auflagenmodule* (there are no CP for this, but you still have to do it) in any semester you want to; but it's recommended to do it as soon as possible.

# **3** Catalogues, Modules and Courses

In general, one or more **courses** are grouped into one (or more) **module**(s).

Note: Some courses can be used for several modules. Make sure to choose the right module for which you want the course to apply!

Similarly, one or more **module**(s) belong to one **catalogue**.

#### **3.1** Catalogues - Important Information

- Within the **Computational Linguistics** catalogue there are **three catalogues** as can be seen in figure 2:
  - 1. Core Computational Linguistics
  - 2. Applied Natural Language Processing
  - 3. Speech Processing

Note: You need to have at least 18 CP in one of these ( $\rightarrow$  your primary catalogue).

Note: You need to have at least 6 CP in each of the remaining two catalogues ( $\rightarrow$  your secondary catalogues).

For example: If you want **Speech Processing** to be your **primary catalogue**, you need to have at least the following CP in each catalogue:

- 1. Core Computational Linguistics  $\rightarrow$  at least 6 CP
- 2. Applied Natural Language Processing  $\rightarrow$  at least 6 CP
- 3. Speech Processing  $\rightarrow$  at least **18 CP**

Note: You can always decide to go for more CPs in these catalogues!

Node filter-Name	rec. sem.	Credits	WF
🗆 🦰 [976-2017] Computational Linguistics 💷		120	1
🗉 🔺 [100] Compulsory modules		27	1
🗆 🔺 [300] Elective Modules		60	1
🗖 🔺 [310] Computational Linguistics			1
🕀 🔺 [3101] Core Computational Linguistics			1
🗉 🔺 [3201] Applied Natural Language Processing			1
🗉 🔺 [3301] Speech Processing			1

Figure 2: Catalogues for Elective Modules

• Within the remaining elective modules catalogues: **Cognitive Science**, **Computer Science** and **Linguistics**, as can be seen in figure 3,

you **can** choose up to **30 CP** (i.e. 60 CP total - 18 CP (primary catalogue) - 2 x 6 CP (secondary catalogues).

(but you can also choose to focus on **Computational Linguistics**, described above).

Node filter-Name	rec. sem.	Credits
🖻 📒 [976-2017] Computational Linguistics 💷		120
🕀 🔺 [100] Compulsory modules		27
🖻 🔺 [300] Elective Modules		60
🗉 🔺 [310] Computational Linguistics		
🗉 🔺 [350] Cognitive Science		
🗉 🔺 [360] Computer Science		
🗉 🔺 [370] Linguistics		
🗉 🛄 [100660] Mathematical Foundations of Machine Learning	86	3
🗉 🔺 [900] Interdisciplinary Key Qualifications		3
🗉 🔟 [80240] Master´s Thesis Computational Linguistics	<b>8</b> 1	30
[DV] 3rd attempts		
🗈 🔺 [Auflagen] Required modules for non-CL graduates		

Figure 3: C@mpus overview on catalogues within Elective modules

## 3.2 Modules

One module consists of one or more courses, i.e. courses are accredited via modules.

Each course can be counted in **one module only**  $\rightarrow$  even if a course can be taken for more than one module!

Note: You'll need to submit your **course-module mapping** each semester (cf. **Module table** in section 2.3).

Hint: If a module is not listed in our module handbook, ask Stefanie Anstein early on whether it can be imported.

General module duration: 1 - 2 semesters.

For a module description check out the module handbook on this website: Module\_Handbook (general description in German, but course information in English).

For more information on courses go to section 3.3.

#### 3.2.1 Obligatory Modules: 57 CP total

- Methods in Computational Linguistics worth 12 CP
  - Non-CL background / for those who have to take the requirement module (Auflagenmodul): choose Methods in CL only
  - CL background / no requirement module (*Auflagenmodul*): either take *Methods in CL* or choose 2 courses from the list, i.e. worth 12 CP
- CL Team Lab worth 6 CP; choose one of the following, either
  - CL Team Lab Phonetics (Prof. Dr. Ngoc Thang Vu) or
  - CL Team Lab (Dr. Roman Klinger)
- CL Research Module worth 9 CP
  - Note: the CP for this course will show up after registering for your master's thesis
- Master's Thesis worth 30 CP

Node filter-Name	rec. sem.	Credits	WF
🗆 📒 [976-2017] Computational Linguistics 💷		120	1
🗉 🔺 [100] Compulsory modules		27	1
🗉 🔟 [35190] Computational Linguistics Team Laboratory 🛛 🕮		6	6
🗉 🔟 [72380] Methods in Computational Linguistics 🛛 🕮		12	12
🗉 🔟 [72390] Computational Linguistics Research Module 🛛 🕮		9	9

Figure 4: Compulsory Modules (without Master's Thesis)

# 3.2.2 Elective Modules: 60 CP total

- Can be taken either at the IMS, at the informatics department or at the linguistics department.
- Courses that belong to the general catalogues *Computational Linguistics* and *Cognitive Science* are electives
  - taught by **IMS** staff.
  - taught in English.
- Courses that belong to the general catalogue Computer Science are electives
  - taught by the informatics institute staff.
  - which can be hold in English but some are available in in German only.
- Courses that belong to the general catalogue Linguistics
  - are taught in English if they are provided by the institute for Linguistik/Anglistik (IfLA).
  - are taught in German if provided by the institute for Linguistik/Germanistik (ILG).
  - take place at the city centre campus (Campus Mitte).

#### 3.2.3 Special Modules: Project Seminar and R&D Project for CL

#### **Project Seminar:**

Some **3 CP courses** can be extended to a **6 CP Project Seminar Module**.

The lecturer of the course chosen has to agree **at the beginning of the course** to the option of using the course as part of the project seminar module;

Note: If the lecturer agrees, this course can then not be used for any other modules!

Note: The course then needs to be registered as **Project Seminar**; and not within the module it would usually belong to.

Node filter-Name	rec. se	m. Credits
🖸 📒 [976-2017] Computational Linguistics 📖		120
🗉 🔺 [100] Compulsory modules		27
🖃 🔺 [300] Elective Modules		60
🖻 🔺 [310] Computational Linguistics		
🗉 🔺 [3101] Core Computational Linguistics		
🗉 🔺 [3201] Applied Natural Language Processing		
🗉 🔺 [3301] Speech Processing		
🗉 🔟 [72430] Project Seminar Computational Linguistics	88	6
🗉 🔟 [100650] R&D Practical Project for CL	88	6

Figure 5: Project Seminar and R&D Project for CL

#### **R&D** Project for CL:

You need to complete an **external internship** or another kind of **practical project** for **at least 8 weeks**.

Goal: gain experience in research and development by working on a comprehensive relevant NLP task which is embedded in a larger context.

Hint: Check with Stefanie Anstein if your internship/project is considered relevant.

Write a report (2000 words: theoretical and practical aspects), find a mentor (ask Stefanie Anstein if in doubt) to grade your report and submit it.

Note: Do not register for this module in C@mpus.

# 3.2.4 Key Competences: at least 3 CP total

Key Competences can be taken e.g. at the *Language Center*, at the *Writing Center*, or at other institutes.

You need to have at least 3 CP, i.e. one passed Key Competence; feel free to go for as many as you wish, but only one is counting towards your total CPs.

You can choose your key competence freely from 6 *Domains of Competence*, as can be seen in figure 6:

Node filter-Name	rec. sem.	Credits
🛛 📒 [976-2017] Computational Linguistics 📖		120
🗉 🔺 [100] Compulsory modules		27
🗉 🔺 [300] Elective Modules		60
🖻 🔺 [900] Interdisciplinary Key Qualifications		3
🗉 🔺 [901] Domain of Competence 1: Methodical Competencies		
🗉 🔺 [902] Domain of Competence 2: Soft Skills		
[903] Domain of Competence 3: Communicative Competencies		
🗉 🔺 [904] Domain of Competence 4: Personnel Skills		
🗉 🔺 [905] Domain of Competence 5: Law, Economy, Politics		
[906] Domain of Competence 6: Natural Scientific- Technical Fundamentals		

Figure 6: Key competences

#### 3.3 Courses

If you are **not enrolled yet**, contact the person responsible for the cours(es) that you want to take. Also, in order to get the course material, be sure to let the lecturer know!

A **complete list of all courses given** can be found in the Appendix in Section 15. In this table you can also find a complete list of the courses from the informatics department that are given in English. You can also find the information if programming or maths is required for your course.

Note: **Current situation - Corona:** due to the current situation we're in, IMS courses will either take place

- as Online-Live, i.e. lectures usually via Webex,
- as Online-Self-Study, i.e. course material will be uploaded on Ilias and should be prepared individually,
- or as *In-Person classes* at the IMS or other buildings on the Vaihingen campus (tba).

#### 3.4 Requirement Module / Auflagenmodul

If you have to pass the requirement module, you should (have) receive(d) information on what you are expected to do.

Note: You have to pass the requirement module before you start with your master's thesis.

If you have a non-CL background:

Requirement module 1: Linguistics and NLP fundamentals for Computational Linguistics

\* If you have a background in computer science or related disciplines.

**Requirement module 2: Computer science and NLP fundamentals for Computa**tional Linguists

\* If you have a background in (applied) linguistics or related disciplines.

Node filter-Name	rec. sem.	Credits	
🖻 📒 [976-2017] Computational Linguistics 💷			120
🗉 🔺 [100] Compulsory modules			27
🗉 🔺 [300] Elective Modules			60
🗉 🔺 [900] Interdisciplinary Key Qualifications			3
🗉 🔟 [80240] Master´s Thesis Computational Linguistics			30
[DV] 3rd attempts			
🗉 🔺 [Auflagen] Required modules for non-CL graduates			
[68330] Requirements module 1: Linguistic and NLP fundamentals for Computational Linguists	ţį		3
(68331) Requirements module 1: Linguistic and NLP fundamentals for Computational Linguists		-	
[68340] Requirements module 2: Computer science and NLP fundamentals for Computational Linguists			3
68341] Requirements module 2: Computer science and NLP fundamentals for Computational Linguists		-	
[I] [100740] Auflagenmodul 3: Programming for Computational Linguistics			6
[100741] Programming for Computational Linguistics		-	
Ill (1007401) Programming for Computational Linguistics, seminar	0	-	

Figure 7: The requirement modul

Depending on which modules you need to pass, the contents may differ but the examination will be **oral**.

More information on the contents can be found on Ilias following this path:

 $Magazin \rightarrow Ingenieurwissenschaften \rightarrow Maschinelle Sprachverarbeitung / Computational Linguistics \rightarrow Arbeitsgruppen \rightarrow Auflagenmodul*.$ 

# **4** Exam(ination) regulations

In the exam(ination) regulations (*Prüfungsordnung*) you can find all important information about exams, the master thesis and all rights and responsibilities with respect to exams.

The following sections provide a short summary, but only the information in the examination regulations are really binding.

Here you can find the link to the examination regulations: Examination\_Regulation.

Hint: They are available in German only, therefore try translating them via e.g. DeepL.

## 4.1 Exam Registration

Exams (also repetition exams) have to be registered in the binding exam registration period.

The registration in the winter term usually starts in the middle of November;

In the summer term in the middle of May. Don't miss it!

You can find the exact dates and more information regarding exam regulations on this page: Deadlines.

#### For modules consisting of 2 (or more) courses:

- Register for a module in the semester in which you will finish all parts, i.e. if you (are able to) take all exams in the same semester.
- Otherwise, **DO NOT REGISTER YET**! Wait for the semester you'll finish your last exam in and register for the whole module then.

# 4.2 Deregistration

Typically, you can simply resign from an exam **until a week before the exam date** without specifying a reason.

If a regular deregistration via C@mpus ist not possible anymore, you have to use a **deregistration form**, that you can find in C@mpus in *My Requests*  $\rightarrow$  *Antrag auf Genehmigung des Rücktritts*.

Note: For the **WiSe 2020/21**, due to **Corona**, different rules apply: <u>Up until the day before the exam</u> you are allowed to deregister from the exam without giving a reason. In the last 6 days before the exam you won't be able to deregister via C@mpus and have to use a deregistration form as explained above.

Should the creation of the form via C@mpus not work, try this generic deregistration\_ form.

Link to the university's Corona guidelines: Corona-guidelines.

#### 4.3 Failed exams and repetitions

You cannot repeat an exam you already passed.

You may repeat a failed exam once without consequences; you may attempt a second repetition only three times over the entire course of your study program.

Should you fail a second repetition as well, you can still get a passing grade (4.0) in an oral exam.

 $\rightarrow$  Further information in §17-19 of the exam\_regulations (in German only).

Note: Two failed modules can be dropped!

# 5 Matriculation Number and Student ID Card (ECUS)

# 5.1 Matriculation Number (1234567)

You'll get your matriculation number once you're enrolled.

Usually, the matriculation number consists of 7 digits: 1234567

Hint: Remember you matriculation number! You need to write it down on exams and you need it to pay your **semester and tuition fee**.

Note: Matriculation number and st-number are not the same!

# 5.2 Student ID Card (ECUS)

You'll receive your student ID card once you're enrolled.

You can use it as a digital wallet to, among things,

- eat in the canteen / cafeteria,
- get books in the **library**,
- copy on campus.

In combination with your **semester stamp** (*ECUS stamp*), you can use your ID card as ticket for public transports (VVS): **Mon. - Fri. after 6 p.m.; all day on weekends and holidays**. You can find your semester stamp on C@mpus under *My certificates*.

Furthermore, you ECUS acts as a key card for university buildings.

A full list and description on ECUS and its functionalities can be found here: ECUS

# 6 Mail Accounts - In General

#### 6.1 Student Mail Account (st123456@stud.uni-stuttgart.de)

The **university** offers a mail service. The mail service is connected with the **st-Account**. You can reach this account with the following link:

https://mail.uni-stuttgart.de

Your mail address looks like this: st123456@stud.uni-stuttgart.de

If you want to add a mail program to your account or you want to establish a **forwarding**, then look at the following instruction: Instructions.

#### 6.2 IMS - own mail account (firstname.lastname@ims.uni-stuttgart.de)

The IMS has it's own mail service.

Your mail address looks like this: firstname.lastname@ims.uni-stuttgart.de.

If you have more than one first or lastname the single names are connected with a hyphen.

As an instruction on how to forward your mails, have a look at section 10.

# 7 Working together on shared documents

To work with several people at the same time for example on a seminar paper, we can recommend the following websites:

Overleaf (LaTeX): Overleaf.

Google Docs (Not LaTeX): GoogleDocs.

# 8 Python, Java, Linux and Co.

# 8.1 Python and Java for beginners

The book *Automate the Boring Stuff* offers a great introduction to the world of programming **Python**: AutomatetheBoringStuff.

For an Introduction to Java have a look at these (free) e-books (in German only): Java-Hamster.

### 8.2 Programming editors

PyCharm (Python) and IntelliJ (Java): Jetbrains.

Sublime (Java and Python): Sublime.

VisualStudio (almost all programming languages): VisualStudio.

Eclipse (Java): Eclipse.

Atom (pretty much everything): Atom.

#### 8.3 Book recommendations

Great for looking stuff up *Speech and Language Processing* by *Jurafsky und Martin*. Available online and at the library.

 $\rightarrow$  link to PDF: Jurafsky\_and\_Martin.

Further literature: *Computerlinguistik und Sprachtechnologie* by *Carstensen et. al* (German only). Available on the library website via VPN as e-book . Explanation on how that works in section 12.

### 8.4 Introduction to Linux -Antje Schweitzer's slides

Link to the: Linux-Introduction

This **guide** explains most of the concepts you'll use, e.g. forwarding IMS mails and navigating directories.

Hint: Definitely worth going through it!

# **9** List of computers and servers

Here you can find a list of all servers and computers which you can access via ssh:

- Server: phoenix, kiwi
- **Computer**: bergente, brillenente, dunkelente, eiderente, kolbenente, kragenente, krickente, loeffelente, marmelente, pfeifente, reiherente, samtente, sichelente, spatelente, spiessente, tafelente

An example for a command with ssh looks like this (more on SSH in chapter 10): ssh musterkm@bergente.ims.uni-stuttgart.de

# 10 Access via SSH to the IMS computers and forwarding your IMS mails ...

# 10.1 ... via Linux

Instruction for a **registration** with ssh on the IMS computers (Example for the name: Kim Mustermensch):

- Register via ssh on the IMS computers. Looks like this for Kim Mustermensch: ssh musterkm@phoenix.ims.uni-stuttgart.de Warning: When you enter the password, it is not visible!
- 2. Go to your home directory. Verify with the command *pwd* in which directory you are at the moment. If you are in the home directory, the command *pwd* shows you the following: /home/users0/musterkm
- 3. Create a new file with the name .forward. Use the command nano .forward for this.
- 4. Write your mail address in the file .forward (cf. figure 8)
- 5. If you have entered your mail address, press Enter, so that the cursor is in the next line.
- 6. Save the file afterwards with strg and o. Press Enter again.
- 7. Close the file with strg and x.
- You have now forwarded your IMS mails to your own mail address! The IMS mails for Kim Mustermensch are now forwarded to the mail address: kim.mustermensch@mail.de

Hint: For an exact instruction have a look at page 15 in the Linux-Introduction by Antje Schweitzer.

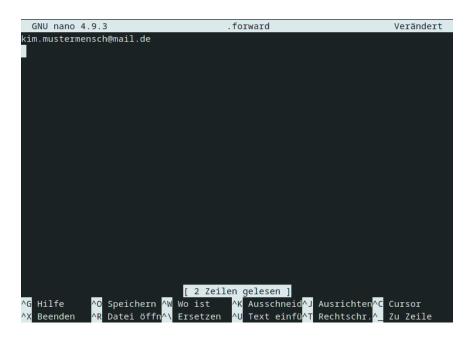


Figure 8: The file .forward should look like this

# 10.2 ... via Mac

The login via SSH works the same as in section 10.1

Use XQuartz as X server if necessary, i.e. if you need to open a pop up window

Hint: For an exact instruction have a look at page 15 in the Linux-Introduction by Antje Schweitzer.

### 10.3 ... via Windows

Via the **terminal, i.e.** *windows command prompt*, (cmd) you can log into the Linux PCs using the same steps as in section 10.1.

If that doesn't work you can use the program Putty (see page 2 in the Linux-Introduction).

Once connected to SSH everything works as mentioned in sections 10.1 and 10.2.

Hint: For an exact instruction have a look at pages 15 to 16 in the Linux-Introduction by Antje Schweitzer.

# 11 Overview of the most important UNIX commands and their functions

Command	function
pwd	tells you the current path: e.g. /home/users0/musterkm
ls	lists the content of the folder
	(Data and subfolders)
ls -a	lists contents including hidden contents (might get ugly
	depending on the folder; and the blank space is intended)
cd	to navigate in between folders
cd	navigates to the home directory
cd	navigates one folder up
cd/	
cd Folder/	navigates to the mentioned folder (mind upper and
	lower case!)
cd Folder/Subfolder	navigates to the mentioned folder
exit	to log out and cut the connection to the server
logout	
scp	backup: copying ONE FILE (secure copy)
scp -r	copying the whole FOLDER (secure copy recursive)

# 11.1 Copying files via Linux and Mac: scp and scp -r

#### Example 1: Copying ONE FILE from the SSH server to your PC

Step 1: Log in into your IMS account via SSH (see Section 10) and navigate to the target folder using cd

**Step 2**: Use pwd in (for instance) *Documents* to get the correct path e.g. **/home/musterkm/Documents/test.txt** 

Step 3: Log out with exit or Logout

**Step 4**: On your own device: pwd to get the path where you want to insert the file or the folder e.g.: /home/KimMustermensch/UniStuff/Test/

Step 5: In general: scp path/of/Source/test.txt path/of/Destination (mind the blank space in between the paths!!)

e.g.: scp /home/musterkm/Documents/test.txt /home/KimMustermensch/UniStuff/Test/ The password for the IMS account must be entered again.

Step 6: If everything worked, the test.txt file should now be on your PC inside the Test folder

#### Example 2: Copying ONE FOLDER from the SSH server to your PC

Step 1: Log in into your IMS account via SSH (see Section 10) and navigate to the target folder using cd

**Step 2**: Use pwd in (for instance) *Documents* to get the correct path e.g. **/home/musterkm/Documents/Stuff** 

Step 3: Log out with exit or Logout

**Step 4**: On your own device: pwd to get the path where you want to insert the file or the folder e.g.: /home/KimMustermensch/UniStuff/Test/ Enter your IMS password again

**Step 5**: In general: **scp path/of/Source/test.txt path/of/Destination** (mind the blank space in between the paths!!) z.B.:

scp -r /home/users0/musterkm/Documents/Stuff/ /home/KimMustermensch/UniStuff/Test/

Schritt 6: If everything worked, the Stuff folder file should now be on your PC inside the Test folder

# 11.2 Copying files via Windows: WinSCP

To copy files from windows to a linux device we recommend WinSCP.

Information on WinSCP and how to install it you can find here: WinSCP

# **12 VPN Access and online library access**

A VPN-Client allows you to have a safe access to the university network on the go. This could be interesting if you want to download e-books, e.g.

You can see the instructions of the Tik-Website on this link: VPN-Instructions and you download the Cisco AnyConnect VPN-Client as described.

Register in the **Cisco AnyConnect VPN-Client**, as described in the VPN-Instructions in *Frequently asked questions*.

Afterwards log in on the website of the Uni-Library.

Browse through the University library catalog to find the books that you want. If the books are available as e-books, it is indicated and you can download them.

You can find general information regarding the access to the electronical resources of the university library Stuttgart here: Electronic\_Resources

# 13 Important contact persons and -addresses

#### • Study Program Manager MSV/CL: Dr. Stefanie Anstein:

- Link to the page of StefanieAnstein.
- Stefanie Anstein's mail address: stefanie.anstein@ims.uni-stuttgart.de.

## • IMS staff and contact information list:

- Link to the IMS\_staff.
- Student representatives MSV/CL:
  - Mail addresse: fscl@ims.uni-stuttgart.de.
- Student representatives informatics:
  - Website (German only): FIUS.

# 14 Important Links

#### 14.1 Welcome slides, study plan, C@mpus and Ilias

#### 14.1.1 Welcome slides

- Stefanie Anstein's welcome\_slides.
- Link to the student representatives' welcome slides: SR\_welcome\_slides.

#### 14.1.2 Study plan

• Printable Study\_Plan.

#### 14.1.3 C@mpus

• Link to the general C@mpus introduction: C@mpus\_Introduction.

#### 14.1.4 Ilias

• Link to the general Ilias introduction: Ilias\_Introduction (in German only).

# 14.2 Modul handbook and Examination regulations

#### 14.2.1 Module handbook and Module table

- Modul handbook on the following website under *Module Handbook* (some descriptions are in German, but course information is in English!): Module\_Handbook.
- Downloadable Module Table (.xlsx File): Module\_Table.

#### 14.2.2 Examination regulations

- Examination Regulations (German only): Examination\_Regulation.
- Information on Registrations, Deadlines and more: Deadlines.
- Generic deregistration form: Deregistration\_Form.
- More potentially useful forms: Forms\_Collection.
- Examination Office: Contact\_Examination\_Office

# 14.3 LaTeX and Linux

#### 14.3.1 LaTeX

- LaTeX Introduction (TU Graz): LaTeX (in German only).
- LaTeX for Beginners (small intro): LaTeX\_Introduction.
- LaTeX for Beginners (skript): LaTeX\_Skript.
- LaTeX Introduction for Linguists: LaTeX\_For\_Linguists\_Intro (in German only)
- LaTeX for linguistics purposes: LaTeX\_For\_Linguisic\_Purposes (in German only)

#### 14.3.2 Linux

- Linux Tutorial by Antje Schweitzer: Linux-Tutorial.
- WinSCP: WinSCP.

# 14.4 Python, Java and more

#### 14.4.1 Python

• Python book for beginners: AutomatetheBoringStuff.

#### 14.4.2 Java

- Java E-Books (in German only): Java-Hamster.
- Java Introduction (in German only): JavaIstAuchEineInsel.

#### 14.4.3 More useful links

- Stackoverflow (helpful for coding issues): Stackoverflow.
- Wolframalpha (helpful for maths issues): Wolframalpha.
- DeepL Translator (works well with long texts): DeepL.
- Overleaf (creating shared LaTeX documents): Overleaf.
- Google Docs (creating shared GoogleDocs): GoogleDocs.

### 14.5 Recommended Books for Computational Linguistics

- Speech and Language Processing: Jurafsky\_and\_Martin.
- Computerlinguistik und Sprachtechnologie (available in the library; German only): Carstensen\_et\_al.

# 14.6 Tik Instructions

#### 14.6.1 Tik Website and Support

- Tik (Technical Information and Communication Services) Website: Tik.
- Tik support: Tik\_Support

#### 14.6.2 Software and licenses for students

• List of free software and licenses: Software\_License\_Link.

#### 14.6.3 Mails

- Instructions to mail services: Mail\_Instructions.
- Online mail access (for st123456 Mail): Mail\_Access

## 14.6.4 VPN

• Instructions to VPN: VPN\_Instructions

#### 14.6.5 Webex

• Webex Guide: Webex\_Guide.

#### 14.6.6 Eduroam

• Eduroam guide: Eduroam\_Guide.

#### 14.7 Student representatives, Stuvus, Stupa

#### 14.7.1 Student representatives MSV / CL and informatics

- Website of the student representatives MSV / CL: SR\_MSV\_CL\_Website.
- MSV/CL Discord: SR\_MSV\_CL\_Discord.
- Website of the student representatives Informatics (in German only): FIUS\_Website.

#### 14.7.2 Stuvus

• Website of the student representation (Stuvus): Stuvus\_Website.

## 14.7.3 StuPa

• Website of the student parliament (StuPa): StuPa\_Website.

# 14.8 Collection of general information and websites

#### 14.8.1 Information regarding the IMS

- Information about the Master at the IMS.
- Contact and Directions: Contact.
- IMS staff: IMS\_Team.

#### 14.8.2 Information regarding Corona and your studies

- General information on corona guidelines for study programs Corona-Guidelines.
- Here you can find more information about the actual information with respect to studying with Corona Corona-Newsticker.

## 14.8.3 Important Go-Tos for Questions and Problems

- About your enrollment, exmatriculation and more: Admissions\_Office (*Studiensekre-tariat*).
- About exams, deregistration and more: Examination\_Office (Prüfungsamt).
- About financial support (BAföG): Studierendenwerk.

### 14.8.4 Uni library and ECUS

- Website of the Uni-Library.
- Accessing electronic ressources: Acces\_Ressources.
- Information on your ECUS\_Student\_ID\_card.

# 14.8.5 Mint-Kolleg, Writing Center and Langage Center

- Website of the Mint-Kollegs.
- Website of the Writing\_Center.
- Website of the Language\_Center.

# 15 Appendix

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EnonoLecture, SeminarOnline-liveingEyesVecture, ExercisesOnline-liveEyesyesLecture, ExercisesOnline-Self-StudyFnoyesSeminarOnline-Self-studyFnoyesLecture, ExercisesOnline-Self-studyFnoyesLecture, ExercisesOnline-Self-studyFyesyesLecture, ExercisesOnline-Self-studyFyesyesLecture, ExercisesOnline-Self-studyintEyesyesLectureintEyesSeminarOnline-Self-studyFnoyesLecture, ExercisesOnline-LiveintEyesyesLectureintEyesSeminarOnline-LiveintEyesSeminarOnline-LiveintEyesJecture, ExercisesOnline-LiveintEyesJecture, ExercisesOnline-LiveintEyesJecture, ExercisesOnline-LiveintEyesSeminarOnline-LiveintEyesJecture, ExercisesOnline-LiveintEyesJecture, ExercisesOnline-LiveintEyesJecture, ExercisesOnline-LiveintEyesJecture, ExercisesOnline-LiveintyesJecture, ExercisesOnline-Liveintyesyes<	Text Technology	ш	yes	no	Lecture, Exercises	Online-Live	Jung, K
ingEyesyesLecture, ExercisesOnline-LiveEmaybeyesLectureOnline-Self-StudyEnoyesSeminarOnline-Self-studyrocessing $G/E$ yesyesLecture, ExercisesOnline-Self-studyEyesyesLecture, ExercisesOnline-Self-studyInter-Self-studyEyesyesLecture, ExercisesOnline-LiveInter-Self-studyEyesyesLectureOnline-Self-studyInter-Self-studyEyesyesLectureOnline-LiveInter-Self-studyEyesyesLectureOnline-LiveInter-Self-studyIntoEyesyesLectureInter-Self-studyInter-Self-studyEyesyesSeminarOnline-LiveInter-Self-studyEyesyesSeminarNine-LiveInter-LiveEyesyesSeminarSeminarInter-LiveEyesyesSeminarNine-LiveEyesyesSeminarNine-LiveEyesyesSeminarYesEyesyesYesYesEyesyesYesYesEyesyesYesYesEyesyesYesEyesYesYesEyesYesYesEyesyesYesEyesyes </th <th>Ethics and NLP</th> <th>ш</th> <th>no</th> <th>no</th> <th>Lecture, Seminar</th> <th>Online-live</th> <th>Pado, S</th>	Ethics and NLP	ш	no	no	Lecture, Seminar	Online-live	Pado, S
EmaybeyesLectureOnline-Self-Study $F$ noyesLectureOnline-Self-Study $F$ noyesSeminarOnline-Self-study $F$ yesyesLectureExercisesOnline-Self-study $F$ yesyesLectureOnline-Self-study $F$ yesyesLectureOnline-Self-study $F$ yesyesLectureOnline-Self-study $F$ yesyesLectureOnline-Self-study $F$ yesyesLectureOnline-Self-study $F$ yesyesLectureNoline-Iive $F$ yesyesLectureNoline-Iive $F$ yesyesSeminarNoline-Iive $F$ yesyesSeminarNoline-Iive $F$ yesyesSeminarNoline-Live $F$ yesyesYesYes $F$ yesyesyesYes $F$ yesyesyes	Deep Learning for Speech and Language Processing	Ы	yes	yes	Lecture, Exercises	Online-Live	Vu, N; Schmidt, M; Väth, D
EnoyesSeminarOnline-Self-studyrocessing $G/E$ yesyesLecture, ExercisesOnline-Self-studyEyesyeslecture, ExercisesOnline-Live $\sim$ EnoyeslectureOnline-Self-study $\sim$ EyesyeslectureOnline-Self-study $\sim$ EnoyeslectureOnline-Iive $\sim$ entEyeslectureNine-Iive $\sim$ entEyeslectureNine-Iive $\sim$ entEyeslecture, ExercisesOnline-Live $\sim$ EnonoNeminarSeminar $\sim$ $\sim$ EyesyesSeminarNine-Live $\sim$ EyesyesSeminarNine-Live $\sim$ EnoyesSeminarNine-Live $\sim$ Enoyeslecture, ExercisesOnline-LiveEnoyeslecture, ExercisesOnline-Live	Speech Recognition and Speech Synthesis	Щ	maybe	yes	Lecture	Online-Self-Study	Denisov, P; Vu, N
<b>rocessing</b> $G/E$ yes $Lecture, Exercises$ Online-LiveEyesyesLectureOnline-Self-studyEnoyesLectureOnline-liveEyesyesLectureOnline-liveEyesyesLectureOnline-liveEyesyesLectureOnline-liveEyesyesLectureNonline-liveEyesyesLectureNonline-liveEyesyesSeminarNonline-LiveEyesyesSeminarNonline-LiveEnoyesLecture, ExercisesNonline-LiveEnoyesSeminarNonline-LiveEnoyesLecture, ExercisesNonline-Live	Dialog Modelling	ш	no	yes	Seminar	Online-Self-study	Ortega, M; Vu N
EyesyesLectureOnline-Self-studyEnoyesLectureOnline-liveEyesyesLectureOnline-liveEyesyesLectureNOEyesyesLectureEyesyesLectureNONoNoNONoNoNEyesYesNoEyesYesNENoNoNENoYesNENoYesNDYesNDYesNDYesNDYesNDYesYesYesYesYesYesYesYesYesYesYesYesYesYes <tr< th=""><th>Speech Signal Processing &amp; Microphone Array Processing</th><th>G/E</th><th>yes</th><th>yes</th><th>Lecture, Exercises</th><th>Online-Live</th><th>Wokurek, W</th></tr<>	Speech Signal Processing & Microphone Array Processing	G/E	yes	yes	Lecture, Exercises	Online-Live	Wokurek, W
EnoyesLectureOnline-liveEyesyesLectureImage: Control of the sector of the sect	Experimental Phonetics	Ы	yes	yes	Lecture	Online-Self-study	Schneider, K
EyesyesLectureentEyeslectureEGnonoSeminarOnline-LiveEnonoSeminarOnline-LiveEyesyesSeminarOnline-LiveEnoyesSeminarNine-LiveEnoyesSeminarNine-Live	Advanced Speech Perception	Е	no	yes	Lecture	Online-live	Schneider, K
entEyesyesLecture, ExercisesGnonoSeminarEnonoSeminarEyesyesSeminarEnoyesLecture, Exercises	Spoken Language Processing	ш	yes	yes	Lecture		Denisov, P; Vu, N; Zhu, M
GnonoSeminarEnonoSeminarEyesyesEnoyesLecture, ExercisesOnline-Live	Speech Signal Processing and Speech Enhancement	ш	yes	yes	Lecture, Exercises		Wokurek, W
EnonoSeminarOnline-LiveEyesyesSeminarEEnoyesLecture, ExercisesOnline-Live	Sprache und Gehirn	IJ	no	no	Seminar		Mayer, J
EyesyesSeminarEnoyesLecture, ExercisesOnline-Live	Introduction to Psycholinguistics	Щ	no	no	Seminar	Online-Live	Pado, S
E no yes Lecture, Exercises Online-Live	Emotion Analysis	Е	yes	yes	Seminar		Oberländer, L; Klinger, R
	Mathematical Foundations of Machine Learning	Щ	no	yes	Lecture, Exercises	Online-Live	Roth, M

Table 1: Overview of all courses. The second column stands for the language in which the course is hold (G= German, E= English)

Data Engineering; Advanced Information Management; Data-Warehouse, Data-Mining and OLAP-Technologien; Information VIsualization and processing and machine learning; IT Service Management; Data Compression; Mobile Computing; Network Security; DIstributed Systems 1; Visual Analytics; Correspondence Problems in Computer Vision; Software Engineering for Real Time Systems; Net-based Applications and English courses from the Computer Science Department: Machine Learning; Reinforcement Learning; Matrix computations in signal e-Commerce; System and Web Security; Security and Privacy; Introduction to Modern Cryptography