Stay Abroad during your Studies in Computer Science

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http://www.comsys.rwth-aachen.de/teaching/exchange

(will be moved to https://sc.informatik.rwth-aachen.de/en/auslandsaufenthalt/)

Why studying abroad?

- **Motivation**
  - ▶ Personal development through new environment/culture
  - ▶ Improvement of language skills
  - ▶ New contacts
  - ▶ Additional qualification for later profession
  - ▶ Other teaching style, different contents

- **Integration into your studies at RWTH**
  - ▶ Tansfer of credits achieved at guest university
    - ■ *Note: check for possible recognitions in advance!*
  - ▶ Adjustment of study plan might be necessary (for Bachelor students)
  - ▶ Leave of Absence possible
  - ▶ No delay in finishing your studies (if everything works well)

Important Aspects

- **When and how long to stay abroad?**

- **Destinations? Exchange programmes?**

- **How to transfer credits?**

- **Organization, financial aspects?**

- **Deadlines?**

Stay Abroad: Requirements and Guidelines

- **General aspects:**
  - ▶ Stay abroad only possible after completion of the fiest year of study
  - ▶ Sufficient knowledge of the language of instruction required (usually at least B1/B2)
    - ■ Sometimes in addition the national language
  - ▶ Minimum grade might be required (at a few universities)
  - ▶ Stay abroad typically limited to one or two semsters
- **Up to 30 ECTS credits per semester should be taken abraod**
  - ▶ Bachelor: possible to transfer up to 60 credits
  - ▶ Master: possible to transfer up to 30 credits

Stay abroad in the Bachelor

- **Bachelor**

  - ▶ You should first finish your compulsory subjects

    - ■ Difficult to take compulsory subjects at another university
    - ■ Recommended: 5th (and maybe 6th) semester

  - ▶ Depending on host university, recognition of achievements possible:

    - ■ 3 elective subjects (18 Credits)
    - ■ Theoretical elective (6 Credits)
    - ■ Seminar (5 Credits)
    - ■ Software project lab (6 Credits)
    - ■ Non-technical elective (4 Credits)
    - ■ Bachelor thesis (15 Credits)
    - ■ Maybe application subject

grün: typically no problem

blau: often no problem, but not offered at all univeristies

grau: more difficult, please clarify beforehand

Stay Abroad in the Master

- **Master**
  - ▶ Anytime, since only/many electives
    - Or at least several options (Data Science)
  - ▶ As early as possible
    - … to be not limited in choice of courses at the host university
  - ▶ Usually large choice of courses at host university
    - *Note: many courses can be recognized, but maybe not all of them. Clarify possible recognitions in advance!*
      - *Also holds for Bachelor*
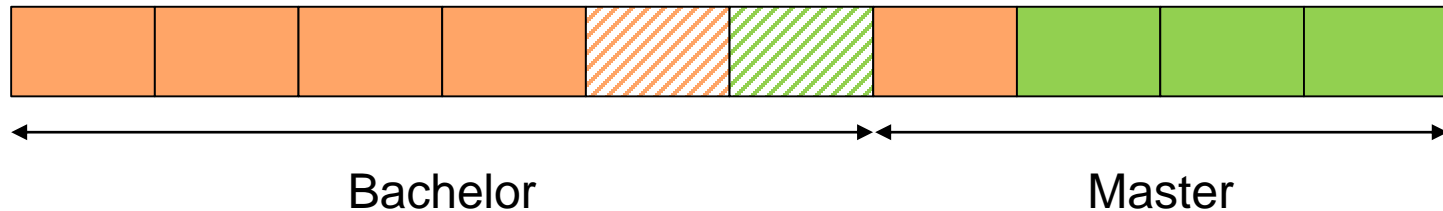
One or two semsters?

- **Duration of a stay abroad**
  - ▶ One semester: easy to embed into your studies
    - ■ But: not much times to learn about environment and culture
  - ▶ Two semesters: more relaxed studies, more life experience
    - ■ But: loss of credits possible

Combines Stay Abroad Bachelor/Master

- **Combined stay**
  - ▶ Stay abroad in 5th & 6th Bachelor semesters
  - ▶ Transfer of about 30 credits in the Bachelor
    - ■ Duration of studies extended to 7 semesters
  - ▶ Transfer of about 30 credits to your future Master
    - ■ Time till finishing Master studies remains the same
  - ▶ With Leave of Absence
    - ■ On paper you have 6 + 4 semesters of studies!

Bachelor | Master

- **Example Business Administration**
  - Two lectures in the 5th semester
    - Can probably not be taken at the guest university
  - Only possible to take them in the 7th semester
  - Bachelor's degree extended to 7 semesters

- **Solution**
  - Take elective subjects/seminar/lab abroad (and maybe Master's subjects)
  - 6th semester: Bachelor's thesis, additional application subject and/or 1-2 Master's subjects
  - 7th semester: application subject, 2-3 Master's subjects
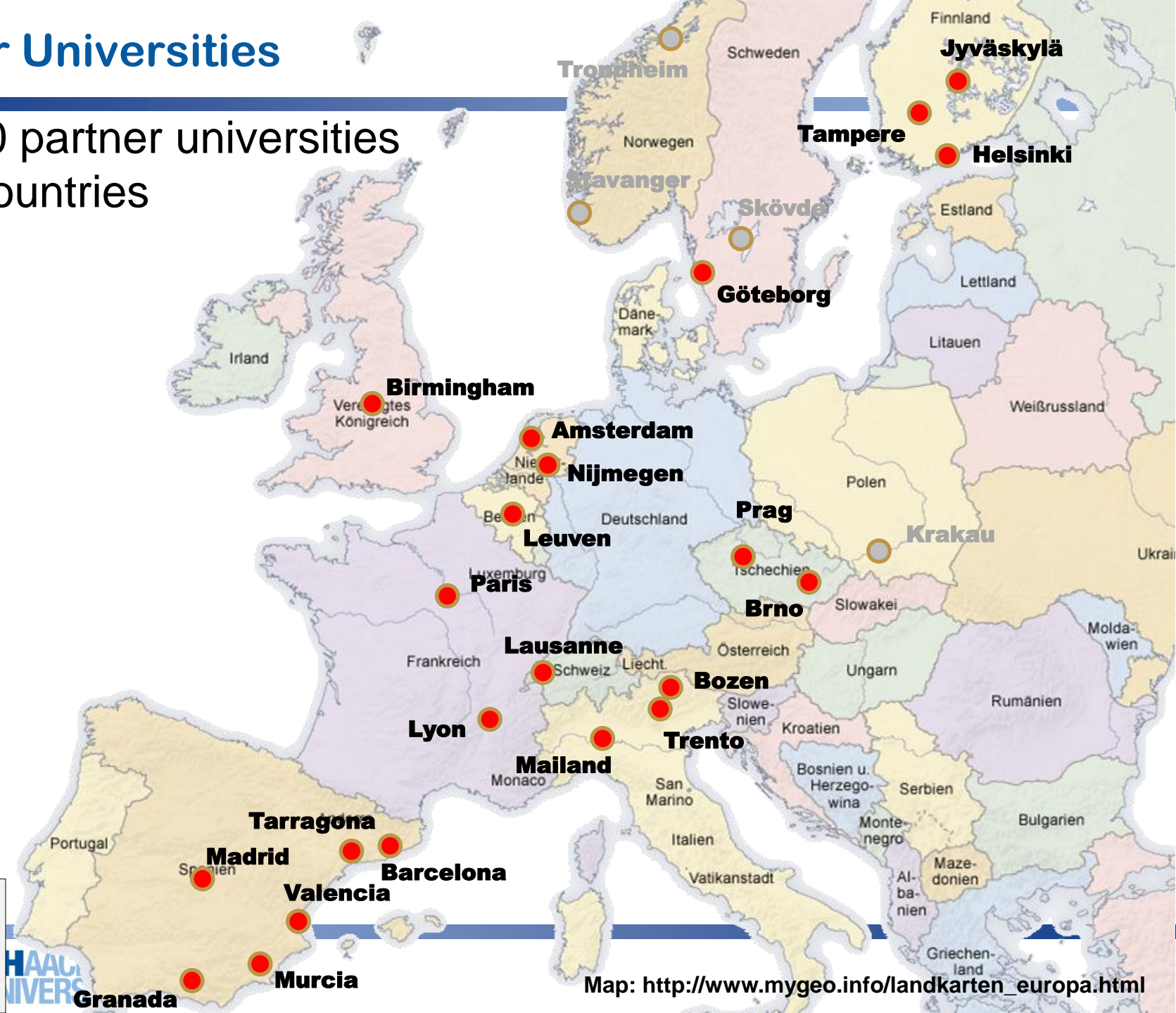 - *Subsequent Master's degree shortened to 3 semesters*

Exchange Programs

- *Erasmus (Switzerland: SEMP, UK: somehow connected)*
  - ▶ Intra-European, agreements with 25 – 30 universities
  - ▶ Organization by our department and the International Office
  - ▶ No tuition fees at the host university
- **Bilateral agreements (wordwide)**
  - ▶ Bilateral agreements with individual universities worldwide
  - ▶ Organization by International Office
  - ▶ No common agreements (e.g., tuition fees?)
- **UNITECH**
  - ▶ Combination of stay abroad and internship in industry
- **Freemover**
  - ▶ Own organization, more complex and maybe more expensive

Erasmus

- **EU programme**
  - ▶ Supports student mobility
  - ▶ Stays of one or two semesters at partner universities
- **Administrative details clarified in advance**
  - ▶ Assured number of study places at partner universities
  - ▶ Known contact persons, lists of available courses (often)
  - ▶ Often: housing placement through partner university
- **No tuition fees**
- **Financial support (scholarship)**
  - ▶ Depending on host country and some additional factors: 300 – 500 Euro per month
    - ■ Maybe good to orient at 400 Euro

Partner Universities

25 – 30 partner universities
In 12 countries

Trondheim
Jyväskylä
Tampere
Helsinki
Stavanger
Skövde
Göteborg
Birmingham
Amsterdam
Nijmegen
Prag
Krakau
Leuven
Brno
Paris
Lausanne
Bozen
Lyon
Trento
Mailand
Tarragona
Madrid
Barcelona
Valencia
Murcia
Granada

Gran
Canaria

Map: http://www.mygeo.info/landkarten_europa.html

Partner Universities

Land	Partnerhochschule	Plätze	Monate pro Person
BE	Katholieke Universiteit Leuven	2 (M)	10
FI	Aalto University Helsinki	2 (B + M)	10
FI	Tampere University of Technology	2 (B + M)	10
FI	University of Jyväskylä	2 (B + M)	5
FR	Ecole Normale Supérieure de Paris-Saclay	3 (M)	12
FR	Institut National des Sciences Appliquées de Lyon	2 (B + M)	5
FR	École Polytechnique	1 (M)	10
FR	Université Paris-Saclay (Paris-Sud XI)	1 (B + M)	12
GB	University of Birmingham	1 (B)	10
IT	Politecnico di Milano	1 (B + M)	9
IT	Università degli studi di Trento	2 (B + M)	10
IT	University of Bozen	3 (B + M)	6

Partner Universities

Land	Partnerhochschule	Plätze	Monate pro Person
NL	Vrije Universiteit Amsterdam	1 (B + M)	10
NL	Radboud University Nijmegen	2 (B + M)	10
NO	University of Stavanger	2 (B + M)	10
NO	Norwegian University of Sci. & Tech. Trondheim	1 (M)	6
PL	AGH University Kraków	1-2 (B+M)	6
SE	University of Göteborg	3 (B + M)	5
CH	École Polytechnique Fédérale de Lausanne	2 (B + M)	10
CZ	Czech Technical University Prague	2 (B + M)	5
CZ	Masaryk University Brno	2 (B + M)	10
CZ	Charles University Prague	2 (M)	5

Partner Universities

Land	Partnerhochschule	Plätze	Monate pro Person
ES	Universidad de Castilla-La Mancha	1 (B) + 1 (M)	5
ES	University of Las Palmas de Gran Canaria	3 (B + M)	9
ES	University of Granada	2 (B + M)	9
ES	Universitat Politècnica de Catalunya	2 (B + M)	5
ES	Universidad Complutense de Madrid	2 (B + M)	10
ES	Universidad Politécnica de Madrid	1-2 (B + M)	12
ES	Universidad de Murcia	1 (B + M)	10
ES	Universitat Rovira i Virgili	2 (M)	5
ES	Universidad de Valencia	3 (B)	10
ES	Universidad Politécnica de Valencia (UPV)	3 (B + M)	10
ES	UPV (spezielle Master-Programme)	3 (M)	10
ES	Universidad del Pais Vasco	2 (B + M)	5 + 10

Links to universities: http://www.rwth-aachen.de/go/id/brse

Application

- **Getting started:**

  - ▶ Gather information about potential destinations

    - ■ Websites: http://www.rwth-aachen.de/go/id/brse

    - ■ Overview of exchange opportunities, reports of other students: https://rwthaachen.moveon4.de/publisher/1/deu

    - ■ Group counselling by International Office : http://www.rwth-aachen.de/cms/root/Die-RWTH/Profil/Internationalisierung/Veranstaltungen/~cfmm/Gruppenberatung/

  - ▶ Consultation hours:

    - ■ Make an appointment by e-mail to student-exchange@cs.rwth-aachen.de

Application Process / Documents

- **Application to up to three universities (priority 1 - 3) possible**

- **Required documents**

  - ▶ Tabular resume (CV)

  - ▶ Academic progress certificate

  - ▶ Current transcript of records (and Bachelor's certificate if you are in the 1st semester of a Master's program)

  - ▶ Proof of language skills (teaching language)

  - ▶ Preliminary course selection

  - ▶ Further voluntary documentation, such as awards, proof of volunteer work, involvement in the BeBuddy program et cetera

  - ▶ Instead of a letter of motivation: Answering four questions in the application portal

- **No motivation letter**
  - ▶ Instead, answer four questions about your professional and extracurricular motivation, extracurricular qualifications and voluntary work, and your suitability as a representative of RWTH Aachen University

- **Resume / CV**
  - ▶ No fixed requirements

- **Language certificate, e.g.**
  - ▶ Abizeugnis / school certificate attesting min. five years of English lessons
  - ▶ Language test of the Language Center: http://www.sz.rwth-aachen.de
  - ▶ …

Application Process / Documents

- **Preliminary course selection**
  - ▶ Show that you have looked at the guest university and found interesting courses there
    - ◾ After place assignment you have to set up an official learning agreement
    - ◾ Concrete course selection can be chnaged at any time up to a few weeks after the start of the stay abroad
  - ▶ Preferably only computer science courses
    - ◾ Maybe also courses from application subject / mathematics, but this has to be clarified in advance
    - ◾ You will get feedback if/how the courses can be recognized

Assigment of Places

- **Submission of Applications**
  - ▶ 1 – 31 January for WS 2022/23 and/or SS 2023
    - ■ Or 1 – 15 April for SS 2023; only remaining places!
  - ▶ Via the application portal of International Office
    - ■ https://rwthaachen.moveon4.de/locallogin/56c6d17184fb969c51c1d171/deu

- **Ranking done by us**
  - ▶ Places are allocated in the order of the ranking, free place with highest priority is allocated
  - ▶ Ranking based on (50% influence each):
    - Average grade achieved in previous studies, weighted by study progress (full credits to actual credits)
    - ■ Appearance of the application: letter of motivation, course selection, sufficient language skills, spelling/grammar, completeness, voluntary commitment (e.g. BeBuddy), ...

Coming Steps

- **Notification of place allocation by the end of February**
  - Confirmation of place within one week
- **Nomination of the selected participants at the host university**
  - ▶ International Office of RWTH provides participants with further information, e.g. about the Erasmus scholarship
  - ▶ Host university offers information on further application
    - ■ Further information after confirmation of place
    - ■ Next: Online application at host university
      - Everyone is responsible for the own application!
      - No acceptance by the host university without online application
      - Official language certificates may now be required

Summary: Schedule

- **Now: Identify potential host universities**
  - ▶ Country/city, language, teaching offer, ...
  - ▶ Check whether further documents, e.g. official language certificates or letters of recommendation, are required at the universities of interest
- **November/December: on interest, meeting with advisor**
  - ▶ E.g. clarify possible courses
- **31 January: Closing date for applications**
- **End February: Allocation of places**
  - Confirmation one week later
- **March: further information from host university**
  - ▶ Online application, timetable varies depending on the host university
    - ▪ 15.4. .... 15.7.

- **Non-European exchange agreements**
  - ▶ https://www.rwth-aachen.de/go/id/mdgfu/lidx/1
  - ▶ Partner universities: https://www.rwth-aachen.de/go/id/dhce/lidx/1

  - ▶ No uniform regulation, e.g. on tuition fees

  - ▶ Mostly university-wide agreements
    - ■ Places not only for computer science, but for RWTH students in general
    - ■ For each agreement, it is indicated which faculties may use it
    - ■ Computer science: filter by faculty 1
      - ‐ Maybe also 1.2

- **Further information**

  ▶ Read descriptions of conditions for interesting universities

  ▶ Maybe contact the respective contact person in International Office

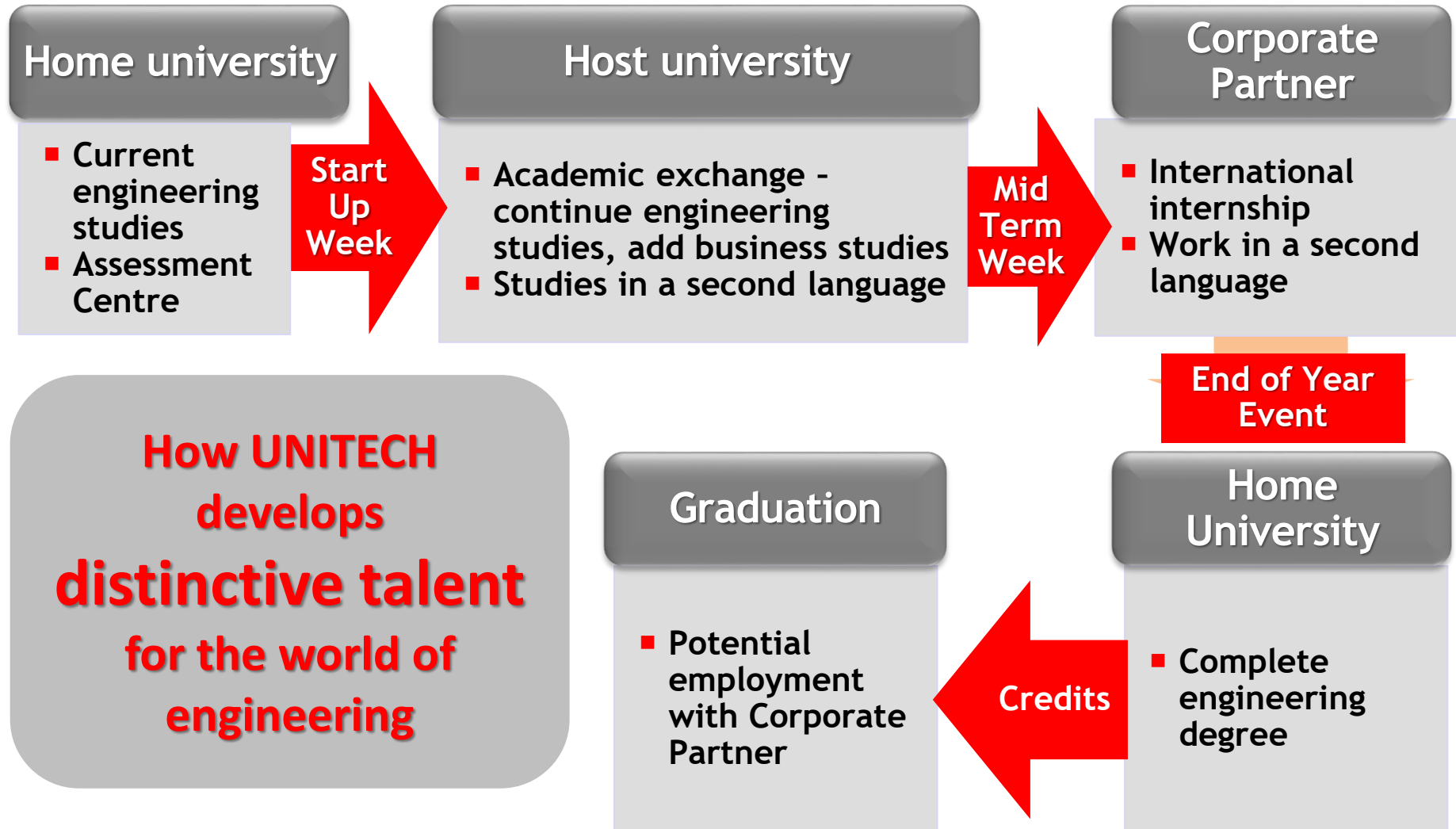 ▶ Group consulations for certain countries or continents (same link as for Erasmus)

- **Application process**

  ▶ Via online portal of International Office

  - https://www.rwth-aachen.de/go/id/bvpm/lidx/1

  - Application documents as for Erasmus

  - Submission of application: 29 October – 29 November (WS+SS) / about 28 May – 28 June (SS, only remaining places)

  - May be different for single universities

Faculty Agreements

- **Similar to university-wide agreements, but only for single faculties/departments**
  - ▶ NII Tokyo
    - ■ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/Studium-im-Ausland/RWTHweltweit/Partnerhochschulen-weltweit/~mald/National-Institute-of-Informatics/lidx/1/
    - ■ For research stays
    - ■ Further information: Prof. Torsten Kuhlen

- **Special program: Combination of semester abroad and internship in a foreign company**

  ▶ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Stipendien-Foerderung/~bwyz/UNITECH-International/?lidx=1

- **RWTH is only German university within UNITECH**

  ▶ Also selected universities in other countries

  ▶ Only a few places per year

  ▶ Very good performance required

- **Submission of application: 25 October – 30 November**

  ▶ Followed by assessment center on 17 February 2022

The UNITECH Year at a glance

Home university
- Current engineering studies
- Assessment Centre

Start Up Week →

Host university
- Academic exchange – continue engineering studies, add business studies
- Studies in a second language

Mid Term Week →

Corporate Partner
- International internship
- Work in a second language

End of Year Event

How UNITECH develops distinctive talent for the world of engineering

Graduation
- Potential employment with Corporate Partner

← **Credits**

Home University
- Complete engineering degree

Coaching: focus and philosophy

During the three modules we focus on:

- Develop ability to have early professional impact
- "Standing out while fitting in"
- Speed of adjustment to people and situations
- Personal leadership skills

UNITECH Coaches work with this philosophy:

- Simple short activities offering multiple learning opportunities
- Development through reflection
- Constructive feedback given with empathy

The Wide and Varied UNITECH Network

7 Academic Partners

CHALMERS

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Loughborough University

RWTH AACHEN UNIVERSITY

POLITECNICO DI MILANO

UNIVERSITAT POLITÈCNICA DE CATALUNYA
UPC BARCELONATECH

TRINITY COLLEGE DUBLIN
COLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH | THE UNIVERSITY OF DUBLIN

UNITECH International

20 Corporate Partners

e·on | Lhoist | infineon | Holcim

VOITH | Evonik INDUSTRIES | Agbar Group

SIEMENS | CRH | SKF | Danfoss

Schindler | GEBERIT | HILTI | vodafone

SCHOTT glass made of ideas | Enel L'ENERGIA CHE TI ASCOLTA. | acer | VORWERK Unser Bestes für Ihre Familie

ZF

Students and Alumni

- 47 active students 2011/2012
- 80 students 2012/2013
- More than 300 active Alumni

- **Stays are in principle possible at any university, outside of exchange agreements**
  - ▶ Increased own initiative required
    - ◼ Application directly to the university
    - ◼ Not all universities accept freemovers
  - ▶ Tuition fees
  - ▶ Clarify the possibility of credit transfer beforehand
  - ▶ Funding?

General Organizational Aspects

- **Semester times**
  - ▶ Winter semester usually starts in September, sometimes even in August (Australia: July!)
    - ■ "Summer"semester often starts in January or early February
  - ▶ Check exam dates early
    - ■ Maybe possible (approval by lecturer required): early exam or distance exam – taking a local exam under private supervision at the partner university (or maybe supervised via Zoom)

- **Leave of absence**
  - ▶ Possible to "suspend" your studies at RWTH for time of stay abroad
    - ■ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/~egx/Beurlaubung/?lidx=1
    - ■ Semester fee reduced, semester counter is stopped
      - ▪ For 30 credits transferred later, the semester counter is increased by 1

General Organizational Aspects

- **Funding**
  - ▶ Auslands-BaFöG
  - ▶ Erasmus scholarship (300 – 500 €)
  - ▶ Scholarships of other organizations (RWTH, DAAD)
    - ■ Partly only for certain countries, certain types of stay, good grades, ...
  - ▶ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/~ehq/Finanzierung-des-Auslandsaufenthalts/lidx/1/

- **Accomodation**
  - ▶ Often organized by host university
    - ■ Often limited number of rooms in dormitories
  - ▶ Otherwise: organize by yourself, maybe supported by host university
    - ■ Costs!

General Organizational Aspects

- **Registration (International Office)**

  ▶ International Office needs information on stays abroad, e.g. for required statistics or for rankings

  ▶ Students participating in Erasmus or university-wide cooperation agreements, are recorded automatically

  ▶ But: International Office does not necessarily get information about students staying abroad via faculty agreements, and they do not get information about freemovers

    ■ If you stay abroad without having applied via International Office, please register yourself:

      - https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/~nswt/Registrierung-Ihres-Auslandsaufenthalts/?lidx=1

Transfer of Credits / Recognition

- **In general: achievements at host university recognized**
  - ▶ But: courses which are similar to courses you have already done at RWTH, cannot be recognized
  - ▶ Courses need to fit into your study programme
  - ▶ Courses have to be „ambitious enough"

- **Selection of courses must be agreed with the study abroad advisor before putting them to a learning agreement!**
  - ▶ Recognition of not-agreed-on courses mybe is not possible

Types of Recognition

- **Depending on content of courses at host university**
  - ▶ Recognition of one course at host university as a *certain RWTH course*
  - ▶ *Blocked recognition*
    - ■ Several courses of host university are recognized as one on several courses at RWTH
      - ⁃ If contents overall are very similar
    - ■ Happens relatively seldom
  - ▶ *Recognition with original title*
    - ■ Courses at host university can be recognized with original title if their content is not similar to any course at RWTH, but thematically fits into one area of your study programme
      - ⁃ E.g. a course on cybersecurity has no counterpart at RWTH, but can be accepted in „data and information management" for Bachelo/Master Infomatik, or in „Specialization Computer Science" for Master Data Science

Types of Recognition

- **Depending on content of courses at host university**
  - ▶ Language courses as non-technical elective (Bachelor Informatik)
  - ▶ Courses of application subject (Bachelor/Master Informatik)
    - ■ Often host university allows to only choose subjects from Computer Science
      - Or at least most subjects have to be from Computer Science
    - ■ Recognition of courses for application subject has to be checked with the study advisors of application subjects

- **In general:**
  - ▶ Always check for recognition in advance!
  - ▶ Not always it is possible to give concrete information in advance
    - ■ E.g. missing or too short course descriptions at host university
      - Statements only possible after submission of more detailed descriptions

Transcript of Records and Recognition

- **At the end of stay the host university issues a Transcript of Records**
  - ▶ Certificate of taken courses with credits and grades
    - ■ Often local grades, sometimes ECTS grades
    - ■ ECTS grades: relative marks
      - A: best 10%
      - B: next best 25%
      - C: medium 30%
      - D: next worse 25%
      - E: worst 10%
      - F: not passed
    - ■ Number of credits: calculation of ECTS credits from the credit system of the host university

Transcript of Records and Recognition

- **At the end of stay the host university issues a Transcript of Records**

  ▶ Calculation of credits and grades

  ■ Credits: basing on workload of one credit at host university

  ■ Grades: https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/
  Internationales/Outgoing/Anerkennung-Auslandsaufenthalt/
  ~hzxh/Notenumrechnung-von-im-Ausland-erbrachte/?lidx=1

  - $$N_{RWTH} = 10 \cdot \frac{N_{Auswärtig}}{N_{Gesamt}}$$

  - $N_{Auswärtig}$: grade achieved in the pass range of the external grading system

  - N_{Gesamt}: Total number of grade levels in the pass range of the external grading system

  - N_{RWTH}: converted grade at RWTH

After the End of the Stay Abroad

- **Submit a report**
  - ▶ Guideline and tips for other students

- **Apply for credit transfer**
  - ▶ Information and template: https://www.comsys.rwth-aachen.de/teaching/outgoings/ anerkennung/

- **Hand-in of documents at International Office**
  - ▶ Transcript of Records, final learning agreement, recognition letter, certificate of the partner university about the duration of the stay
  - ▶ Concrete list of documents depends on type of stay (Erasmus, worldwide, freemover, …)

Other Opportunity: Internships

- **Internships or research stays at other universities**
- **Information available at International Office**
  - ▶ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/~ehn/Auslandspraktika-Forschungsaufenthalte/?lidx=1
  - ▶ Maybe combination with thesis

Deadlines

- ## ERASMUS/SEMP

  - ▶ Application for 2022/23 until 31 January

  - ▶ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/Studium-im-Ausland/Erasmus-/~bqzn/Bewerbungsablauf/?lidx=1

- ## RWTHweltweit

  - ▶ Application for 2022/23 until 29 November

  - ▶ https://www.rwth-aachen.de/go/id/bvpm/lidx/1

- ## UNITECH

  - ▶ Application for 2022/23 until 30 November

  - ▶ https://unitech.app/application

Next Steps

- **Identify universities for a stay abroad**
  - ▶ Country/city, languages, courses, ...
  - ▶ Required: *Language proficiency of teaching language*!
    - ■ Maybe take language courses
  - ▶ Look for interesting courses

- **Gather information**
  - ▶ Websites, study abroad advisor, group consulting, reports of other students, …

- **Produce/collect required documents**

Ask for Information early!

- **Weitere Informationen:**
  - ▶ International Office: https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/~hqdb/Internationales/lidx/1/
    - Lists of partner universities, information on RWTHweltweit
    - General information
    - Funding
    - Application portals

  - ▶ Study abroad advisory Computer Science: https://www.comsys.rwth-aachen.de/teaching/exchange/ (in German)
    - Information on Erasmus
    - General information
    - Information on transfer of credits

Link Collection

- Overview: https://www.comsys.rwth-aachen.de/teaching/outgoings/
- Group consultation: http://www.rwth-aachen.de/cms/root/Die-RWTH/Profil/Internationalisierung/Veranstaltungen/~cfmm/Gruppenberatung/
- Reports: https://rwthaachen.moveon4.de/publisher/1/deu
- Funding: https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/~ehq/Finanzierung-des-Auslandsaufenthalts/lidx/1/
- Leave of absence: https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/~egx/Beurlaubung/?lidx=1
- Erasmus: https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/Studium-im-Ausland/~bqzd/Erasmus-/?lidx=1
- Partner universities Erasmus: http://www.rwth-aachen.de/go/id/brse
- RWTHweltweit: https://www.rwth-aachen.de/go/id/mdgfu/lidx/1
- Partner universities RWTHweltweit: https://www.rwth-aachen.de/go/id/dhce/lidx/1
- UNITECH: https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Stipendien-Foerderung/~bwyz/UNITECH-International/?lidx=1
- Internships and research stays: https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/~ehn/Auslandspraktika-Forschungsaufenthalte/?lidx=1
- Registration (freemover / faculty agreements): https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/~nswt/Registrierung-Ihres-Auslandsaufenthalts/?lidx=1