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/de/exchange-students/)

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 first 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 semesters
- **Up to 30 ECTS credits per semester should be taken abroad**
  - ▶ Bachelor: possible to transfer up to 60 credits
  - ▶ Master: possible to transfer up to 30 credits

- **Bachelor**
  - ▶ You should first finish most of your compulsory subjects
    - ■ Difficult to take compulsory subjects at another university
      - ▪ Often taught in national language
    - ■ Recommended: 5th (and maybe 6th) semester
  - ▶ Depending on host university, recognition of achievements possible:
    - ■ Up to 3 elective CS subjects (18 Credits)
    - ■ Theoretical CS elective (6 Credits)
    - ■ Seminar (4 Credits)
    - ■ Software project lab (6 Credits)
    - ■ Non-technical elective (4 Credits)
    - ■ Bachelor thesis (15 Credits)
    - ■ Maybe elective application subjects

green: typically no problem

blue: often no problem, but not offered at all universties

grey: 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
  - ▶ Often 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*
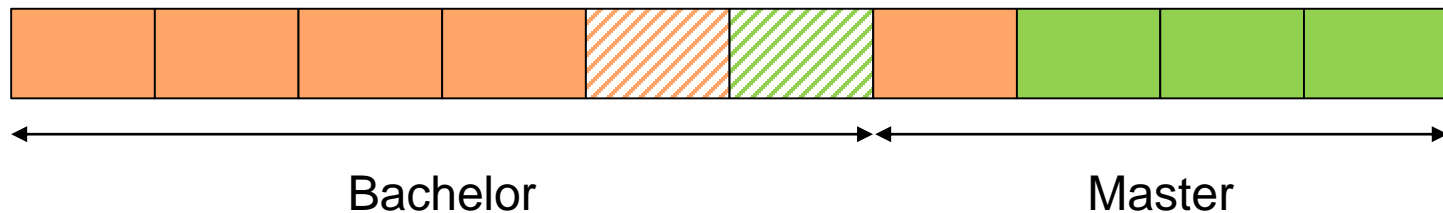
One or two semesters?

- **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

Combined 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

Problem with Bachelor's Courses for a one-semester Stay

- **Example "Elements of Machine Learning and Data Science" and Seminar**

  - Compulsory courses in the 5th semester
    - Can maybe not be taken at the guest university
    - Only possible to take them after being back
  - ▶ Bachelor's degree extended to 7 semesters

- **Solution**

  - ▶ Take elective subjects/lab abroad, additionally Master's subjects
  - ▶ 6th semester: seminar, additional elective subjects and/or Master's subjects
  - ▶ 7th semester: Elements of ML/DS, Bachelor's thesis, Master's subjects
  - ▶ *Subsequent Master's degree shortened to 3 semesters*

Exchange Programs

- *Erasmus (Switzerland: SEMP, UK: somehow connected)*
  - ▶ Intra-European, agreements with ~35 universities
  - ▶ Organization by our department and the International Office
  - ▶ No tuition fees at the host university

- **ENHANCE**
  - ▶ Agreement for simplified exchange with certain EU universities
    - ■ Chalmers (Göteborg), NTNU (Trondheim), PoliMi (Milano), UPV (Valencia), WUT (Warsaw)
  - ▶ Defined offer at each university, recognition already known
  - ▶ Goal: „unlimited mobility"
  - ▶ Organized similar to Erasmus
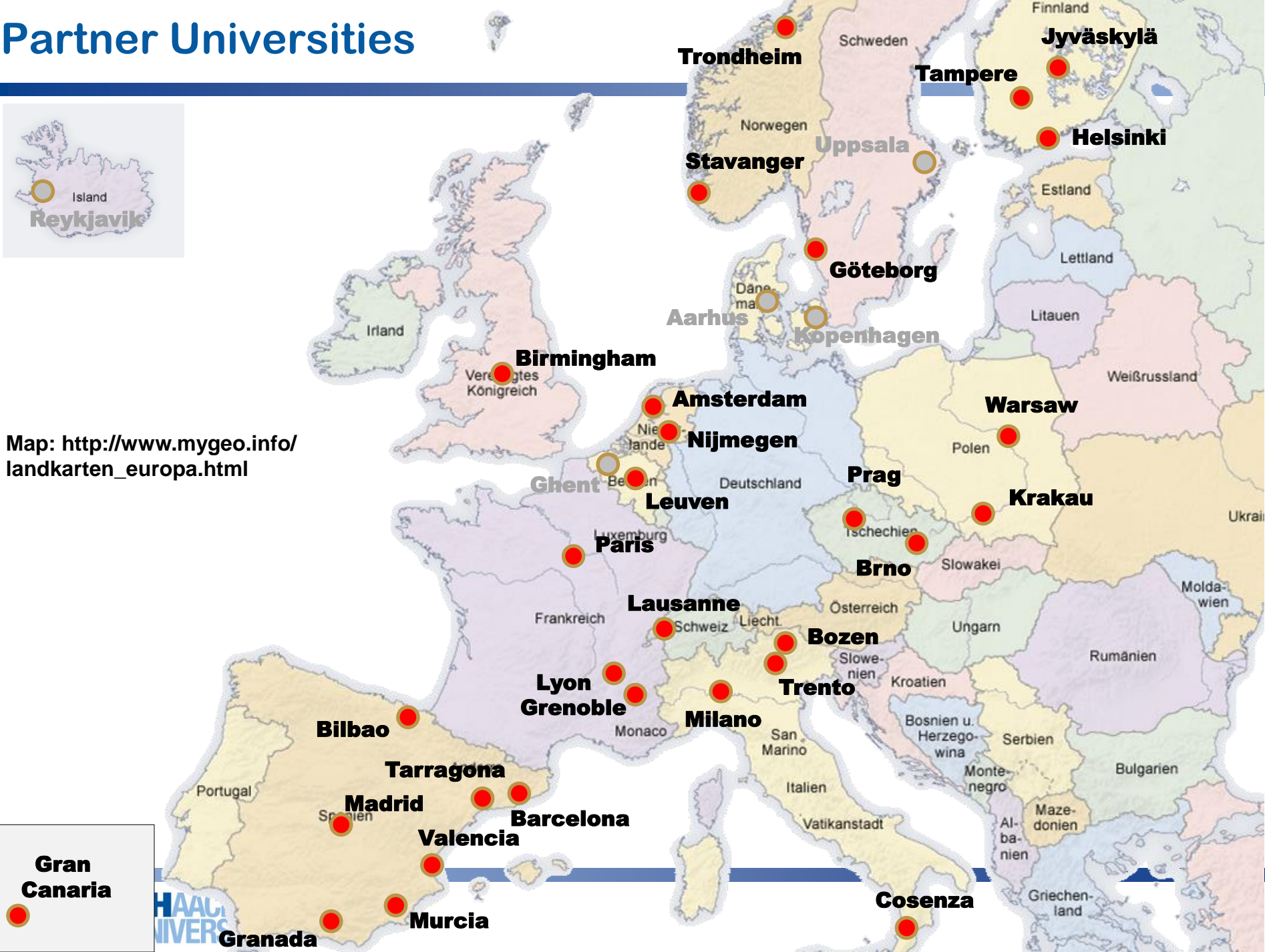
Exchange Programs

- **Bilateral agreements (RWTHworldwide)**
  - ▶ 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: 500 – 600 Euro per month (plus extra support for certain groups of students)
    - ■ https://www.rwth-aachen.de/cms/root/studium/Im-Studium/Internationales/Outgoing/~bbte/Chancengerechtigkeit-Austausch-fuer-all/?lidx=1

Partner Universities

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

Trondheim
Jyväskylä
Tampere
Helsinki
Stavanger
Uppsala
Göteborg
Aarhus
Kopenhagen
Birmingham
Amsterdam
Nijmegen
Warsaw
Ghent
Leuven
Prag
Krakau
Paris
Brno
Lausanne
Bozen
Lyon
Grenoble
Trento
Milano
Bilbao
Tarragona
Madrid
Barcelona
Valencia
Cosenza
Murcia
Granada
Reykjavik

Gran
Canaria

Partner Universities

Country	Partner University	Places	Semesters per place
BE	Katholieke Universiteit Leuven	2 (M)	2
FI	Aalto University Helsinki	2 (B + M)	2
FI	Tampere University of Technology	2 (B + M)	2
FI	University of Jyväskylä	2 (B + M)	1
FR	Ecole Normale Supérieure de Paris-Saclay	3 (M)	2
FR	INSA Lyon	2 (B + M)	1
FR	École Polytechnique	1 (M)	2
FR	Université Paris-Saclay (Paris-Sud XI)	1 (B + M)	2
FR	Insitute Polytechnique de Grenoble	2 (M)	1
IT	Politecnico di Milano	1 (B + M)	2
IT	Università degli studi di Trento	2 (B + M)	2
IT	University of Bozen	3 (B + M)	1
IT	University of Calabria	3 (M)	2

Partner Universities

Country	Partner University	Places	Semesters per place
GB	University of Birmingham	1 (B)	2
NL	Vrije Universiteit Amsterdam	1 (B + M)	1
NL	Radboud University Nijmegen	2 (B + M)	2
NO	University of Stavanger	4 (B + M)	2
NO	Norwegian University of Sci. & Tech. Trondheim	1 (M)	1
PL	AGH University Kraków	1-2 (B+M)	1
PL	Warsaw University of Technology	2 (M)	1
SE	University of Göteborg	3 (B + M)	1
CH	École Polytechnique Fédérale de Lausanne	2 (B + M)	2
CZ	Czech Technical University Prague	2 (B + M)	1
CZ	Masaryk University Brno	2 (B + M)	2
CZ	Charles University Prague	2 (M)	1

Partner Universities

Country	Partner University	Places	Semesters per place
ES	University of Las Palmas de Gran Canaria	3 (B + M)	2
ES	Univerity of Granada	2 (B + M)	2
ES	Universitat Politècnica de Catalunya	2 (B + M)	1
ES	Universidad Complutense de Madrid	4 (B + M)	1
ES	Universidad Politécnica de Madrid	1-2 (B + M)	2
ES	Universidad de Murcia	1 (B + M)	2
ES	Universitat Rovira i Virgili	2 (M)	1
ES	Universidad Politécnica de Valencia (UPV)	3 (B + M)	2
ES	UPV (spezielle Master-Programme)	3 (M)	2
ES	Universidad del Pais Vasco	2 (B + M)	1x1, 1x2

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

Application Process / Documents

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

- **Resume / CV**
  - ▶ No given 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 2023/24 and/or SS 2024
    - ■ Or 1 – 15 April for SS 2024; 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: motivation texts, course selection, sufficient language skills, spelling/grammar, completeness, voluntary commitment (e.g. BeBuddy), ...

Coming Steps

- **Notification of place allocation by the end of February or early March**
  - 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 / early March: Allocation of places**
  - Confirmation one week later
- **March or later: information from host university**
  - ▶ Online application, timetable varies depending on the host university
    - ■ 15.4. .... 15.7.

- **New program to simplify mobility**
    - ▶ Take courses from different partner universities, maybe in person, maybe virtual
    - ▶ Partner universities:
        - ■ Chalmes Göteborg, NTNU Trondheim, Politecnico de Milano, Universidad Politecnica de Valencia, Technical University Warsaw, (TU Berlin)
    - ▶ Universities exchanged course lists – recognition of offered courses already is clear, should happen automatically (uh, with RWTHonline…)
    - ▶ Websites:
        - ■ https://www.rwth-aachen.de/cms/root/Die-RWTH/Profil/Internationalisierung/Partnerhochschulen-und-internationale-Ne/~nsfht/ENHANCE-European-Universities-of-Techn/?lidx=1
        - ■ https://educationpathways.enhanceuniversity.eu/

RWTHworldwide

- **Non-European exchange agreements**
  - ▶ https://www.rwth-aachen.de/cms/root/studium/Im-Studium/Internationales/Outgoing/Studium-im-Ausland/~mdgfu/RWTHweltweit/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

RWTHworldwide

- **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: 7 – 21 November (WS+SS) / around May/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

UNITECH

- **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: till 30 November 2022**
  - ▶ Followed by assessment center in January/February 2023

Freemover: Individual Stay Abroad

- **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?
  - ▶ https://www.rwth-aachen.de/cms/root/studium/Im-Studium/Internationales/Outgoing/Studium-im-Ausland/~Issb/Freemover/?lidx=1

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 (500 – 600 € or more in special situations)
  - 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 Bachelor/Master Informatik and SSE, 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) or additional competences (Master Data Science)
  - ▶ Courses of elective 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

- **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**
  - ▶ Process is currently changed. Ask me what to do when you are coming back.

- **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 in a foreign company or university**

- **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/ENHANCE**
  - ▶ Application for 2023/24 until 31 January
  - ▶ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Internationales/Outgoing/Studium-im-Ausland/Erasmus-/~bqzn/Bewerbungsablauf/?lidx=1

- **RWTHworldwide**
  - ▶ Application for 2023/24 until 21 November
  - ▶ https://www.rwth-aachen.de/go/id/bvpm/lidx/1

- **UNITECH**
  - ▶ Application for 2023/24 until 30 November
  - ▶ https://www.rwth-aachen.de/cms/root/Studium/Im-Studium/Stipendien-Foerderung/~bwyz/UNITECH-International/?lidx=1

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!

- **Further Information:**
  - ▶ 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

- ENHANCE: https://www.rwth-aachen.de/cms/root/Die-RWTH/Profil/Internationalisierung/Partnerhochschulen-und-internationale-Ne/~nsfht/ENHANCE-European-Universities-of-Techn/?lidx=1

- RWTHworldwide: https://www.rwth-aachen.de/cms/root/studium/Im-Studium/Internationales/Outgoing/Studium-im-Ausland/~mdgfu/RWTHweltweit/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