

Hochschule Bremen  
City University of Applied Sciences



## Faculty „Electrical Engineering and Computer Science“:

International Study Programs and Research

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## Free Hanseatic City of Bremen:

International Seaport and trading centre

Situated near the North Sea

Population 550.000 (tenth largest town)

Second most important foreign trade location



## Economy:

World-ranking seaport

Automobile

manufacturing, electronics, steel, shipbuilding, aviation and aerospace industry

Food and semi-luxury goods industry

Transformation to science, services, and high-tech



## History:

1,200 years old

Early centre of the Christian missions to North Europe

Major role among the towns of the mediaval Hanseatic League

Trading centre in the patricians tradition

## Organization

Approx. 9.500 students in

- 41 undergraduate programs
- 25 graduate programs

5 Schools:

- Business and Economics
- Architecture
- Social Sciences
- Electrical Engineering and Computer Science
- Nature and Engineering

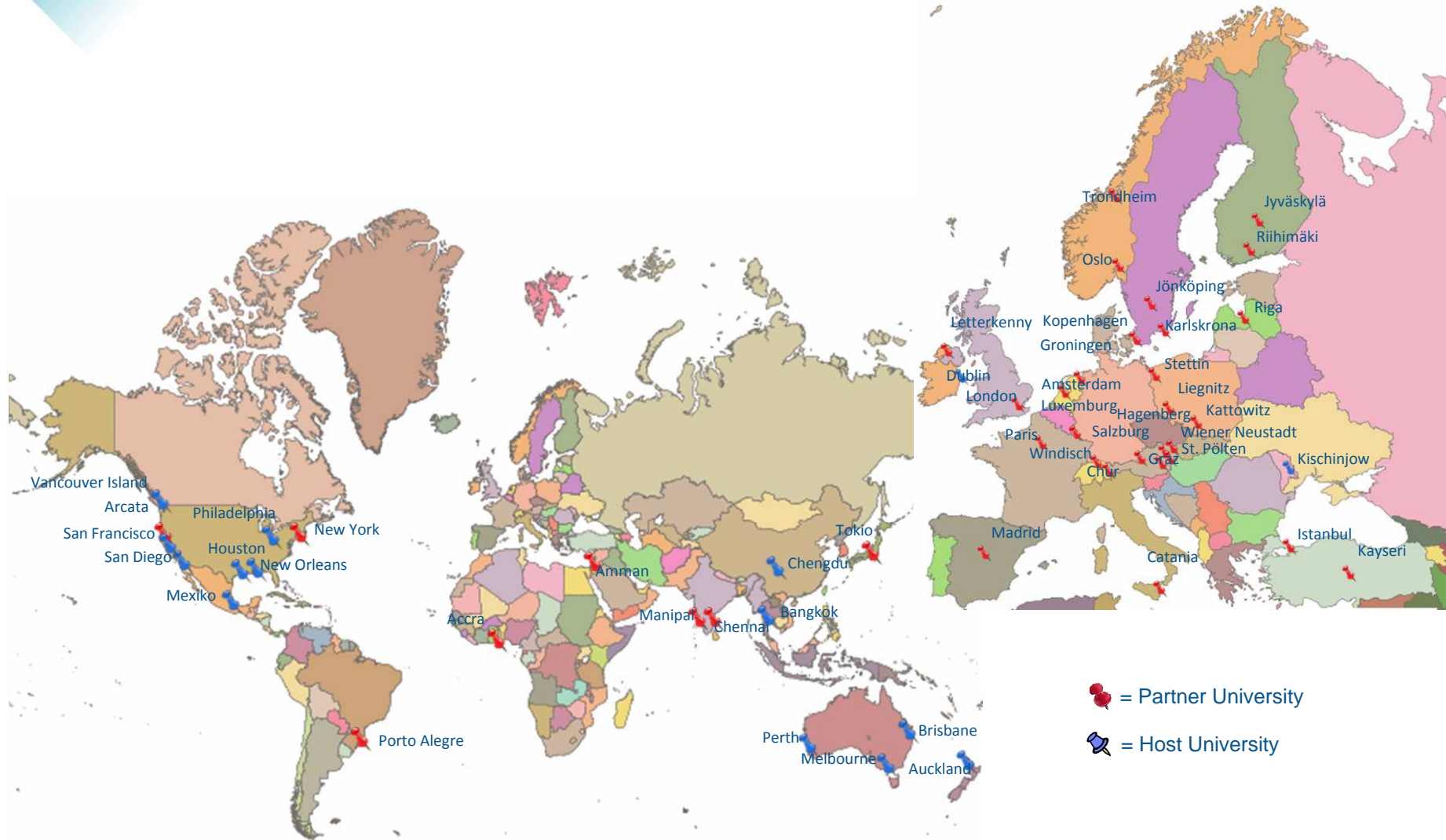


- Study programs in Computer Science and Electrical Engineering

Field	Bachelor Programs	Master Programs
Computer Science	<b>Women's Int. Degree Program in Computer Science (B.Sc.)</b> - Dual degree option	Computer Science (M.Sc.)
	Int. Degree Program in Media Computer Science (B.Sc.)	
	Degree Program in Technical Computer Science (B.Sc.) - International option - Dual degree option	
	Degree Program in Mechatronics (B.Eng.) - Dual degree option	
Electrical Engineering	Degree Program in Electrical Engineering (B.Eng.) - Dual degree option	Electrical Engineering (M.Sc.)
	Int. Degree Program in Engineering and Applied Physics (B.Sc.)	

- orientation towards practical applications
- orientation towards professional practice
- in many study programs international option

## Partner and Host Universities





## Sites



**Flughafenallee: ZIMT**  
(Centre for Computer Science and Media Technology)



**Neustadtswall: M Building**

- 2 sites with approx. 9000m<sup>2</sup>
  - approx. 60 staff members
  - 4 institutes
  - about 35 laboratories
  - several partner universities
- 
- Campus WLAN
  - Library
  - Cafeteria and canteen
  - Language lab
- 
- Business incubator

## Women's Int. Degree Program in Computer Science (B.Sc.)

- Characterization:
  - Applied computer science with focus on software development
  - (Primarily) mono educative,
    - i.e. basic lectures are for women only;
    - later co-educational lectures may be attended
  - International program, i.e. compulsory semester abroad
  - Up to 27 students per intake

1.	Programming 1	Foundations of Comp. Sc. 1	Operating Sys.(hands-on)	Comp. Arch. (hands-on)	Mathematics 1
2.	Programming 2	Foundations of Comp. Sc. 2	Internet and Media	Computer Networks 1	Mathematics 2
3.	Software Engineering 1	Human-Comp. Systems	Database Systems	Computer Networks 2	Compulsory Optional 1
4.	Software Engineering 2	Programming (hand-on)	Systems Software	CS and Society	Compulsory Optional 2
5.	Sem. Abroad (Comp. Opt. 1)	Sem. Abroad (Comp. Opt. 2)	Sem. Abroad (Elective)	Elective	Supervision: Sem. Abroad
6.	Project		Compulsory Optional 3	Compulsory Optional 4	Preparation: Internship
7.	Internship			Bachelor Thesis	

## Women's Int. Degree Program in Computer Science (B.Sc.)

### History and Experiences:

- Established in the year 2000 – **why?**
- Change from Diploma to Bachelor / Master degree in 2005
- Continuously 36 students per year,  
60 – 90 applications (depending on PR efforts)
- Continuously about 20 successful graduates per year
- Best job opportunities  
(10 applications – 8 invitations – 6 job offers)
- Establishment of a dual program option in 2017



## Women's Int. Degree Program in Computer Science (B.Sc.)

### Main features:

- Small groups  
36 students per intake per year, 36 students in classes, 18 students in labs
- Strict single sex education in the first year, electives and projects may be mixed later
- Classes are taught in an interactive way, questions are always welcome
- Student tutors in all classes of the first year
- Social contacts inside the study program and to our graduates:  
Every IFI student knows (nearly) all other IFI students
- events: Christmas meeting, barbecue with the starters, ...
- Fairs: homecoming fair, internship fair

## Women's Int. Degree Program in Computer Science (B.Sc.)

### Experiences from a student's perspective

- **Already 6<sup>th</sup> Semester!**
- **Started in September 2016 in a group of 27 women**
- **Easy enroll**
- **0 foreknowledge in IT required**
- **After 2 semesters – only 15**
- **Individual projects + group works**
- **No pressure in the beginning, but almost same program as other IT study programs**
- **In 6<sup>th</sup> semester most courses with Media IT together**

- All study programs are taught in German, but...
- ... we offer selected courses in English on a regular basis
  
- Course offerings may vary, but usually include courses such as
  - projects
  - compulsory optionals, e.g.
    - Data Mining
    - Game Design
    - Computer Aided Geometric Design
    - Mobile Computing
    - Computer Security
    - Audio and Video Design
  - compulsory modules such as Computer Graphics
- Courses in English language are offered in spring term

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Thank you for your attention!

# Curriculum

## Women's Int. Degree Program in Computer Science (B.Sc.)

1.	Programming 1	Foundations of Comp. Sc. 1	Operating Sys.(hands-on)	Comp. Arch. (hands-on)	Mathematics 1
2.	Programming 2	Foundations of Comp. Sc. 2	Internet and Media	Computer Networks 1	Mathematics 2
3.	Software Engineering 1	Human-Comp. Systems	Database Systems	Computer Networks 2	Compulsory Optional 1
4.	Software Engineering 2	Programming (hand-on)	Systems Software	Comp. Sciences and Society	Compulsory Optional 2
5.	Sem. Abroad (Comp. Opt. 1)	Sem. Abroad (Comp. Opt. 2)	Sem. Abroad (Elective)	Elective	Supervision: Sem. Abroad
6.	Project		Compulsory Optional 3	Compulsory Optional 4	Preparation: Internship
7.	Internship			Bachelor Thesis	



# Curriculum

## Int. Degree Program in Media Computer Science (B.Sc.)

1.	Programming 1	Mathematics 1	Foundations of Comp. Sc.	Media Informatics 1	Media Design 1
2.	Programming 2	Mathematics 2	Computer Networks	Media Informatics 2	Media Design 2
3.	Software Engineering	Media Formats and Algorithms	Security in IS	Project	Human-Comp. Interaction
4.	DB / Web-Applications	Computer Graphics	Project	Project	Media Design 3
5.	Sem. Abroad (Comp. Opt. 1)	Sem. Abroad (Comp. Opt. 2)	Sem. Abroad (Elective)	Elective	Supervision: Sem. Abroad
6.	Compulsory Optional 1	Compulsory Optional 2	Compulsory Optional 3	Compulsory Optional 4	Preparation: Internship
7.	Internship			Bachelor Thesis	

# Curriculum

## Int. Degree Program in Technical Computer Science (B.Sc.)

1.	Analysis	Foundations of Electr. Eng. 1	Foundations of Comp. Sc.	Programming 1	English for Engineers
2.	Linear Algebra	Foundations of Electr. Eng. 2	Digital Circuits Design	Programming 2	Physics
3.	Higher Eng. Mathematics	Computer-Aided IC Design	Operating Systems	Software Engineering 1	Found. Of El. Measurements
4.	Computer Networks	Computer Architecture	Databases	Software Engineering 2	Micro Controllers
5.	Semester Abroad				
6.	Preparation: Internship	Business Administration	Internship		
7.	Project	Compulsory Optional 1	Compulsory Optional 2	Bachelor Thesis	