

# ICT Lab 1 / Praktikum IKT 1 (Communications Engineering part)

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## Tutors

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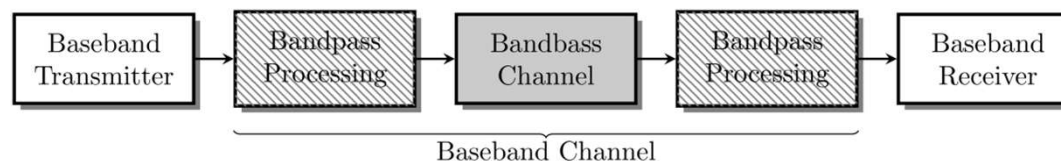
[www.ant.uni-bremen.de/en/courses/ictlab/](http://www.ant.uni-bremen.de/en/courses/ictlab/)

# Overview

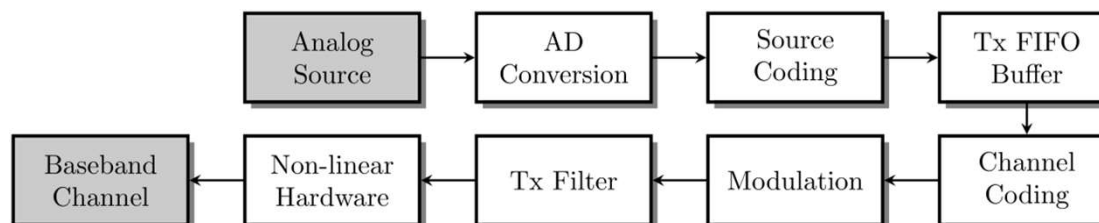
- Organisation
  - ◆ Overview on task description
  - ◆ Different master programs
  - ◆ Goals and requirements
  - ◆ Lab dates
  - ◆ Final group arrangement

# Overview on task description

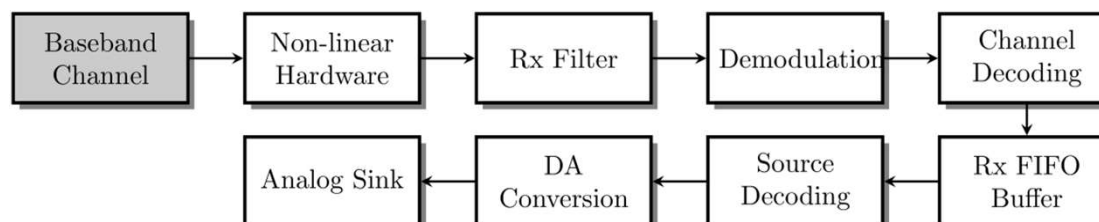
- Implement point-to-point transmission system in Matlab



- Transmitter structure:



- Receiver structure:



## Different master programs

- ET/IT master students (IKT or MEKT): 6 CP in total
  - ◆ 3 CP = 90h work load (+ 3 CP for experiments in HF department)
  - ◆ Implement full transmission chain including transmitter and receiver, with group specific task
  
- WINGS master students: 3 CP in total
  - ◆ 3 CP = 90h work load (ANT part only)
  - ◆ Implement full transmission chain including transmitter and receiver, with group specific task
  
- CIT master students: 3 CP in total
  - ◆ 1 CP = 30h work load (+ 2 CP for experiments in HF department)
  - ◆ Implement receiver only (transmitter is provided), no group specific task

# Goals and Requirements

## ➤ Requirements

- ◆ Self-motivated working style (researching unknown topics with minimal tutor help)
- ◆ Basic communications technology knowledge (equivalent GNT from the German Bachelor ET/IT)
- ◆ Basic knowledge of Matlab
- ◆ Basic knowledge of presentation techniques / software (e.g., LaTeX Beamer or Powerpoint)

## ➤ Goals

- ◆ Self-motivated problem solution including research and collaboration with other lab attendees
- ◆ Deepening knowledge about all the basic processing steps in communications from digitization to coding and modulation
- ◆ Developing programming skills in Matlab
- ◆ Practicing presentation of technical details / procedures (written and oral)

# Matlab

- For FB1 students Matlab is provided using remote desktop connection
  - ◆ rms.fb1.uni-bremen.de
  - ◆ Login with Uni Bremen Account Details
    - Name: without “@uni-bremen.de”
  
- Mathworks offers MATLAB and Simulink Student Suite for 69€

## Dates

Date	Time	Subject
Tue, 15.10.2019 (today)	14:00 - 16:00	Initial organization of the lab
Tue, 05.11.2019	14:00 - 18:00	Intermediate: Consultation and test run for evaluation
Tue, 10.12.2019	14:00 - 18:00	Evaluation of part 1 (ET/IT and WINGs mandatory)
Tue, 14.01.2020	14:00 - 18:00	Intermediate: Consultation and test run for evaluation (ET/IT, WINGs) and Final Presentation (CIT, mandatory)
Tue, 28.01.2020	14:00 - 18:00	Evaluation of part 2 and presentation (ET/IT and WINGs mandatory)