Technology
Arts Sciences
TH Köln

# Course
# AT - Antenna Technology

Version: 2 | Last Change: 05.10.2019 16:27 | Draft: 0 | Status: vom verantwortlichen Dozent freigegeben

## General information

| | |
|---|---|
| **Long name** | Antenna Technology |
| **Approving CModule** | AT_BaET, AT_BaTIN |
| **Responsible** | Prof. Dr. Rainer Kronberger<br>Professor Fakultät IME |
| **Level** | Bachelor |
| **Semester in the year** | winter semester |
| **Duration** | Semester |
| **Hours in self-study** | 150 |
| **ECTS** | 5 |
| **Professors** | Prof. Dr. Rainer Kronberger<br>Professor Fakultät IME |
| **Requirements** | GE1, GE2, GE3, EL1, GHF, Mathematics |
| **Language** | German |
| **Separate final exam** | Yes |

### Final exam

#### Details

oral

#### Minimum standard

Minimum Score 4.0

#### Exam Type

oral

## Lecture

### Learning goals

#### Knowledge

• electromagnetic fields and waves, Maxwell Equations
• wave propagation, polarization, reflection and transmission of waves on materials and bounderies

- pattern, directivity, gain, impedance, efficiency
- linear antennas, monopole, dipole, arrays, Yagi-Uda an-tenna, parabolic antenna
- mobile antennas and terminal antennas
- antenna measurements, nearfield, farfield,

#### Skills

understand electromagnetic waves

Ability to use simulation tools

Learn measurment methodes and methodologies

Undertand the functional principle of antennas

### Expenditure classroom teaching

| Type | Attendance (h/Wk.) |
|---|---|
| Lecture | 0 |
| Tutorial (voluntary) | 0 |

### Separate exam

none

## Project

## Learning goals

### Skills

Undertstand measurements at higher frequencies

Learn how to use simulation tools

Learn how to handle RF measurement equipment

Learn how to perform antenna measurements

Perform antenna simulations

Write scientific reports

## Expenditure classroom teaching

| Type | Attendance (h/Wk.) |
|---|---|
| Project | 0 |
| Tutorial (voluntary) | 0 |

## Separate exam

### Exam Type

working on projects assignment with your team e.g. in a lab)

### Details

Development of an antenna

### Minimum standard

4.0