

# Possible Paths for the Telecommunication Master

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# Telecommunications Modulgruppe1 (classic)

Summe: 120 ECTS

- Pflichtmodul: Signal Processing (9,0 ECTS)
  - Vertiefungspflichtmodule (Summe 45 ECTS):
    - Communication Networks (9,0 ECTS)
    - Wireless Communications (9,0 ECTS)
    - Digital Communications (9,0 ECTS)
    - RF Techniques (9,0 ECTS)
    - Photonic and Optical Communications (9,0 ECTS)
  - Wahlmodule für Modulgruppe 1 (Summe 27 ECTS):
    - Advanced Signal Processing (9,0 ECTS)
    - Network Security (9,0 ECTS)
    - Advanced Wireless Communications (9,0 ECTS)
    - Advanced Digital Communications (9,0 ECTS)
    - Advanced RF Techniques (9,0 ECTS)
    - Advanced Photonics (9,0 ECTS)
  - Freie Wahlfächer (9,0 ECTS)
  - Masterarbeit (30,0 ECTS)
- } Wähle 3 aus 6

# Modulgruppe 2 Informations- und Kommunikationstechnik

## Summe: 120 ECTS

- Pflichtmodul: Signal Processing (9,0 ECTS)
  - Vertiefungspflichtmodule (Summe 45 ECTS):
    - Communication Networks (9,0 ECTS)
    - Wireless Communications (9,0 ECTS)
    - Digital Communications (9,0 ECTS)
    - Grundlagen der Informatik (9,0 ECTS)
    - Analoge und Digitale Schaltungen (9,0 ECTS)
    - Smart Grids aus Netzperspektive (9,0 ECTS)
  - Wahlmodule für Modulgruppe 2 (Summe 27,0 ECTS)
    - Advanced Signal Processing (9,0 ECTS)
    - Network Security (9,0 ECTS)
    - Advanced Wireless Communications (9,0 ECTS)
    - Advanced Digital Communications (9,0 ECTS)
    - Advanced RF Techniques (9,0 ECTS)
    - Advanced Photonics (9,0 ECTS)
    - Photonic and Optical Communications (9,0 ECTS)
    - RF Techniques (9,0 ECTS)
    - Betriebssysteme und Software Engineering - Vertiefung (9,0 ECTS)
    - Integrierte Digitale und Analoge Schaltungen - Vertiefung (9,0 ECTS)
    - Informationstechnik in Smart Grids (9,0 ECTS)
  - Freie Wahlfächer (9,0 ECTS)
  - Masterarbeit (30,0 ECTS)
- Wähle 2 aus 3
- Wähle mindestens 2 aus 8
- Wähle maximal 1 aus 3

# Modulgruppe 3 Telekom Schaltungen und System-Design

## Summe: 120ECTS

- Pflichtmodul: Signal Processing (9,0 ECTS)
- Vertiefungspflichtmodule: (Summe 45,0 ECTS)
  - RF Techniques (9,0 ECTS)
  - Wireless Communications (9,0 ECTS)
  - Photonic and Optical Communications (9,0 ECTS)
  - Analoge und Digitale Schaltungen (9,0 ECTS)
  - Bauelemente und Systeme (9,0 ECTS)
- Wahlmodule für Modulgruppe 3 (Summe 27,0 ECTS):
  - Advanced Signal Processing (9,0 ECTS)
  - Network Security (9,0 ECTS)
  - Advanced Wireless Communications (9,0 ECTS)
  - Advanced Digital Communications (9,0 ECTS)
  - Advanced RF Techniques (9,0 ECTS)
  - Advanced Photonics (9,0 ECTS)
  - Digital Communications (9,0 ECTS)
  - Communication Networks (9,0 ECTS)
  - Integrierte Digitale und Analoge Schaltungen - Vertiefung (9,0 ECTS)
  - Bauelemente und Systeme – Vertiefung (9,0 ECTS)
- Freie Wahlfächer (9,0 ECTS)
- Masterarbeit (30,0 ECTS)

Wähle mindestens 2 aus 8

Wähle maximal 1 aus 2

# Modulgruppe 4 Telekom in der Energietechnik

## Summe 120 ECTS

- Pflichtmodul: Signal Processing (9,0 ECTS)
  - Vertiefungspflichtmodulen (Summe 45ECTS):
    - RF Techniques (9,0 ECTS)
    - Wireless Communications (9,0 ECTS)
    - Communication Networks (9,0 ECTS)
    - Energiewandlung und -übertragung (9,0 ECTS)
    - Energiewirtschaft (9,0 ECTS)
    - Stromversorgungsnetze - Praxis (9,0 ECTS)
    - Smart Grids aus Netzperspektive (9,0 ECTS)
  - Wahlmodule für Modulgruppe 4 (Summe 27,0 ECTS):
    - Advanced Signal Processing (9,0 ECTS)
    - Network Security (9,0 ECTS)
    - Advanced Wireless Communications (9,0 ECTS)
    - Advanced Digital Communications (9,0 ECTS)
    - Advanced RF Techniques (9,0 ECTS)
    - Advanced Photonics (9,0 ECTS)
    - Photonic and Optical Communications (9,0 ECTS)
    - Digital Communications (9,0 ECTS)
    - Energieversorgung Vertiefung (9,0 ECTS)
    - Energieöwirtschaft und Umwelt - Vertiefung (9,0 ECTS)
    - Informationstechnik in Smart Grids (9,0 ECTS)
  - Freie Wahlfächer (9,0 ECTS)
  - Masterarbeit (30,0 ECTS)
- Wähle 3 aus 4
- Wähle mindestens 2 aus 8
- Wähle maximal 1 aus 3

# Modulgruppe 5 Telekom in der Automatisierungstechnik

## Summe 120 ECTS

- Pflichtmodul: Signal Processing (9,0 ECTS)
- Vertiefungspflichtmodule (Summe 45,0 ECTS):
  - RF Techniques (9,0 ECTS)
  - Digital Communications (9,0 ECTS)
  - Communication Networks (9,0 ECTS)
  - Automation (9,0 ECTS)
  - Antriebe und Stromrichter (9,0 ECTS)
- Wahlmodule für Modulgruppe 5 (Summe 27,0 ECTS):
  - Advanced Signal Processing (9,0 ECTS)
  - Network Security (9,0 ECTS)
  - Advanced Wireless Communications (9,0 ECTS)
  - Advanced Digital Communications (9,0 ECTS)
  - Advanced RF Techniques (9,0 ECTS)
  - Advanced Photonics (9,0 ECTS)
  - Wireless Communications (9,0 ECTS)
  - Photonic and Optical Communications (9,0 ECTS)
  - Leistungselektronik (9,0 ECTS)
  - Antriebe – Vertiefung (9,0 ECTS)
- Freie Wahlfächer (9,0 ECTS)
- Masterarbeit (30,0 ECTS)

Wähle mindestens 2 aus 8

Wähle maximal 1 aus 2

# Modulgruppe 6 Telekom im Regelungstechnischen Umfeld

## Summe 120 ECTS

- Pflichtmodul: Signal Processing (9,0 ECTS)
  - Vertiefungspflichtmodule (Summe 45,0 ECTS) :
    - Wireless Communications (9,0 ECTS)
    - Digital Communications (9,0 ECTS)
    - Communication Networks (9,0 ECTS)
    - Nichtlineare dynamische Systeme und Regelung (9,0 ECTS)
    - Optimale Systeme (9,0 ECTS)
  - Wahlmodule für Modulgruppe 6 (Summe 27,0 ECTS):
    - Advanced Signal Processing (9,0 ECTS)
    - Network Security (9,0 ECTS)
    - Advanced Wireless Communications (9,0 ECTS)
    - Advanced Digital Communications (9,0 ECTS)
    - Advanced RF Techniques (9,0 ECTS)
    - Advanced Photonics (9,0 ECTS)
    - Photonic and Optical Communications (9,0 ECTS)
    - RF Techniques (9,0 ECTS)
    - Modellierung und Regelung Vertiefung (9,0 ECTS)
  - Freie Wahlfächer (9,0 ECTS)
  - Masterarbeit (30,0 ECTS)
- Wähle mindestens 2 aus 8
- Wähle maximal 1 aus 1

# Modulgruppe 7 Signalverarbeitung in den Life Sciences

## Summe 120 ECTS

- Pflichtmodul: Signal Processing (9,0 ECTS)
- Vertiefungspflichtmodule (Summe 45,0 ECTS) :
  - Information Processing (13,5 ECTS)
  - Wireless Communications (9,0 ECTS)
  - Communication Networks (9,0 ECTS)
  - Photonic and Optical Communications (9,0 ECTS)
  - RF Techniques (9,0 ECTS)
  - Basics of Biology for Information Engineering (4,5 ECTS)
  - Basics of Physiology (9,0 ECTS)

} Wähle 2 aus 4
- Wahlmodule für Modulgruppe 7 (Summe 27,0 ECTS):
  - Advanced Signal Processing (9,0 ECTS)
  - Network Security (9,0 ECTS)
  - Advanced Wireless Communications (9,0 ECTS)
  - Advanced Information Processing (9,0 ECTS)
  - RF Techniques (9,0 ECTS)
  - Advanced Photonics (9,0 ECTS)
  - Advances in Medical Physics and Imaging (9,0 ECTS)
  - Advances in Biomaterials and Biomechanics (9,0 ECTS)
  - Advances in Mathematical and Computational Biology (9,0 ECTS)
  - Advances in Biomedical Signals and Instrumentation (9,0 ECTS)

} Wähle mindestens 1 aus 6

} Wähle mindestens 1 aus 4
- Freie Wahlfächer (9,0 ECTS)
- Masterarbeit (30,0 ECTS)