Course: Telecommunication — credits: 3

Course code	ELVH17GTC
Name	Telecommunication
Study year	2022-2023
ECTS credits	3
Language	Dutch, with parts in English
Coordinator	G.J. Geertsma
Modes of delivery	Lecture Practical / Training Tutorial
Assessments	Telecommunication - Written, organised by STAD examinations

Learning outcomes

The student can:

- design a simple mains power supply;
- calculate simple RC and LC filters
- do simple calculations related to superheterodyne radio receivers and radio transmitters;
- calculate the parameters of a VCO;
- calculate the most important parameters of an antenna system
- motivate their choice for a certain type of filter in a high-frequency circuit
- calculate the amplification of several types of amplifiers;
- choose which type of amplifier is most suitable for a certain application;
- distinguish differences between AM, FM, and SSB.

Content

- Mains power supplies, transformers, rectifiers, filtering, stabilisation of power
- Diodes, types and applications
- Amplifiers (Audio and RF), OP-AMPs, Efficiency (class, A, AB, B, C, D)
- Amplification, damping, level, decibels
- Oscillators, AF, RF, crystal
- Radio transmitters, modulation, AM, FM, SSB
- Crystal receiver, TRF-receiver, super-heterodyne receiver
- RF-filters: low pass, high pass, band pass
- Application of Fourier analysis in simple situations
- Detection methods: AM, CW, SSB, FM
- Antennas

Included in programme(s)

Electrical Engineering Major Electronics

School(s)

Institute of Engineering

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