

# Electrical Engineering and Electronics 1 (EEE1)

## Student Group

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5. linear sources
  - <https://en.wikibooks.org/wiki/Electronics>

You already know V-I-R and you not only connect AC/DC with music?

Great! Then you should Go one step further.

In this course we will investigate

- which ideal components are used in circuits and
- how they interact with each other and different types of current.

## [Introduction in Electrical Engineering 1](#)

or: How to work with this course?

### Direct Current Circuits

#### 1 [Preparation, Properties, Proportions](#)

or: Watt is Power and Current?

#### 2 [Simple Circuits](#)

or: about Branches and Stars

### 3 [non-ideal Sources and two Terminal Networks](#)

or: something lumpy with two Pins and why shortcircuits may be important

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## Alternating Current Circuits

### 6 [Introduction in Alternating Current Technology](#)

or: real and imaginary Parts

### 7 [Circuits under different frequencies](#)

or: Dampening the Output

[old English exams](#)

# Additional Links

## English

- [Electrical Engineering - Fundamentals](#): A great, compact textbook covering about the same range as this course.  
(Use University VPN to get the textbook)
- [Circuit Analysis and Design](#) is a beautifully written and illustrated textbook with the same range of topics like this course.  
(It is also free to download - after filling in your data - and used in many US universities.)
- A great introductory script into electrical engineering can be found at [LibreText - Physics II Thermodynamics, Electricity and Magnetism](#). The content is originally from [OpenStax](#) and covers most of the parts of my course
- Another good introduction is given by [HyperPhysics](#)

## German

- [Grundlagen der Elektrotechnik](#), This book covers the same level as the course. It covers ET1 and ET2. (German)
- [Online Brückenkurs des KIT/Uni Stuttgart](#): Nice, partly animated online script, covering chapters 1, 2, 3 and 5 (German)
- [H.Er.T.Z der HS Karlsruhe](#): The **H**ochschuloffene **E**lektrotechnik **Z**entrum of the Karlsruhe HS has a nice [online script](#) (German)
- [LeifiPhysik](#): Here you can find further explanations of our chapters on vocational

school/gymnasium level. (German)

- [simple club](#): simple club: explanatory videos on electrical engineering in the field of physics ; subscription not necessary!
- [Elektrotechnik einfach erklärt](#): still few, but well developed videos
- [Elektrotechnik in 5 Minuten](#): good fund of short videos

## Exercises

- In addition to the H.Er.T.Z script (see above), there are further [exercises](#).
- Further exercises will be distributed via ILIAS

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Last update: **2024/01/17 09:30**

