Study Content

Electrical energy technology is concerned with the generation and distribution of electrical energy, whereby the physical interrelationships are dealt with in more detail than in classical engineering study programmes.

Due to the limited energy resources in the world, the use of electricity from renewable energy sources such as the sun (photovoltaics) and wind power is becoming increasingly important.

Renewable energies are the basis of the energy revolution and thus an increasing field of work for The graduates of the Electrical Power Engineering / Physics study programme are particularly qualified to secure the environmentally friendly electrical energy supply of the future.

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But the intelligent and environmentally friendly use of electricity is also one of its tasks: The further development of electric mobility with improved electric cars and the intelligent control of electricity consumers (smart grid) for the optimum use of electricity generated from alternative energies.

The Electrical Power Engineering / Physics study programme contains course modules on the following topics:

1. **Electrical Power Engineering**

- Electrical Engineering
- Measuring Technology
- Electronics
- Generation and Distribution of electrical energy
- Circuitry
- Signales and Systems
- Control Engineering
- Electric drives
- Power Electronics
- Renewable Energy Systems
- Automation
- Directives, standards and network protection technology
- Electricity industry, Smart Grids

2. **Physics**

- Mechanics
- Thermodynamics
- Visual appearance
- Atom Physics
- Solid state physics

3. **Basics of Mathematics, Computer Science and Chemistry**

- Mathematics
- Engineering-Informatics
- Embedded Systems
- Chemistry
- Materials