

Module name	Electric and Magnetic Fields
Module number	Eul-ET-C-EMF, Eul-BMT-C-EMF, Eul-IST-C-EMF, Eul-MT-C-EMF, Eul-RES-C-EMF
Lecturer in charge	Prof. Dr. phil. nat. habil. Ronald Tetzlaff ronald.tetzlaff@tu-dresden.de
Objectives	After completing the module, students know the basic concepts, quantities and methods for calculating simple electric fields and magnetic fields. They are able to calculate the energy stored in the field, the force effects caused by the fields and the induction effects in the magnetic field. Students are familiar with the basic principles of the electronic components resistor, capacitor, coil and transformer and their descriptive equations.
Contents	The module covers the calculation of simple electric fields and magnetic fields.
Modes of teaching and learning	2 hours per week lectures, 2 hours per week exercises and self-study.
Prerequisites	The skills to be acquired in the modules Introduction to Analysis and Algebra and Basics of Electrical Engineering are required.
Usability	The module is a compulsory module in the basic studies of the degree programmes Electrical Engineering, Biomedical Engineering, Information Systems Engineering, Mechatronics and Renewable Energy Systems. It creates the prerequisites for the modules that list that module in the "Prerequisites" field.
Requirements for the award of credit points	The credit points are awarded when the module assessment is passed. The module assessment consists of a written exam of 150 minutes.
Credit points and grades	5 credit points can be obtained by the module. The module grade is the grade of the examination.
Frequency	The module is offered every summer semester.
Workload	The total effort is 150 hours.
Duration	The module takes one semester.