Faculty of Health, Science and Technology
Electrical Engineering

Syllabus

Applications of Power Electronics

Course Code:	ELGC06
Course Title:	Applications of Power Electronics *Tillämpningar av kraftelektronik*
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has at least 60 credits in first-cycle course/s as entry requirements (G2F)

Major Field of Study:
ETA (Electrical Engineering)

Course Approval
The syllabus was approved by the Faculty of Health, Science and Technology 2020-03-11, and is valid from the Autumn semester 2020 at Karlstad University.

Prerequisites
Power Electronics (7.5 ECTS credits), or registered on the Electrical Engineering Bachelor programme, or equivalent

Learning Outcomes
Upon completion of the course, students should be able to:
- perform calculations for power supply applications,
- perform calculations for the steering of alternating and direct current motors, and
- perform calculations for applications in electrical power systems

Content
- Power supply applications: Power supply and uninterruptible electrical supply

- Applications for steering motors: Direct current motor, asynchronous motor, synchronous motor
- Applications for electrical power systems: Housing, industrial systems, power transmission, and renewable energy

Reading List
See separate document.

Examination
Assessment is based on a written exam, mandatory laboratory sessions, and laboratory reports.

If students have a decision from Karlstad University entitling them to special pedagogical support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades
One of the grades Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course. For students in the Engineering programme, one of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), U (Fail) is awarded in the examination of the course.

Quality Assurance
Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate
A course certificate will be provided upon request.

Additional information
The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.