**Student examples**

Analyse the following two student examples (abstracts) by highlighting positive and negative aspects. Use the document “Academic Writing Summary” to identify relevant aspects and make suggestions for improving these examples.

[Please note: These are uncorrected student versions that contain various mistakes.]

**Example 1: Abstract**

The device can measure the current on the phases of a 230V AC cable. We go further by measuring the voltage, too. To realize our project, we use two current clamps, one for the current and the other one has been configured to measure the voltage. That gives the possibility to measure the phase between voltage and current. The device is therefore able to calculate phase-dependant values like active and reactive power consumption. The analogically amplified values are being elaborated and displayed by a STM32F429 MCU.

Suggestions for improvement:

**Example 2: Abstract**

As part of the project module EPM3 a cable monitor had to be developed, which can detect a mains cable, measure the distance to the cable and measure the current which is flowing through it. Additionally, gathering experiences with project management and time keeping during an ongoing project are part of this course.   
The project contains a PCB to sense the fields emitted by the cable: The electrostatic field is measured by pads and the electromagnetic field with coils or a hall sensor: The signals gathered by the pads, coils and hall-sensor are very small and noisy. To measure the signals with an ADC, they first must be amplified and filtered. Several solutions have been implemented to increase the robustness of the circuit and to be able to choose the best working circuit. The signals can be filtered by an active Butterworth low pass third order or a passive RC low pass.   
When the hardware report was handed in, a cable can be detected and the output signals from the PCB measured with the oscilloscope allow conclusions about the distance of the cable. The signals from the current measurement are not yet satisfying on the oscilloscope, due to low amplitude and high noise.   
It was a good decision to implement more than one solution, as one part of the circuit was not working as intended and could be skipped due to modular design. Although the implemented solution works, we would have designed the circuit differently at the time of submission. Circuits like the diode clamper or the peak rectifier with an opamp and diode were unknown and therefore not used.

Suggestions for improvement: