# **Example of inquiry-based mathematical task in the course MA-171 Statistics and economy.**

# **Project in Statistics using R programming on Solar Cells**

This is a 5-week group project in the subject MA-171 Statistic and economy for Computer science and electronics. Each group has data from 10 different types of rooftop solar cells at Campus Grimstad. Each group get assigned with different weeks of data.

We use data from 2015, because we know that some of the data have faults.

In this project we want students to do as much as possible with the data using their knowledge from the theory they have learned in statistics. This is not a project about knowledge on solar cells, but about handling large amount of data.

They should be able to present for example:

* Efficiency versus temperature/weather/…
* Do regression
* Plot and discuss standard deviation
* Use R-programming
* Discover error in data
* And more

They will only be introduced to R-programming and regression. They will get info about where to find theory etc.

They need to find the data (correct week) themselves from a server.

The results need to be presented as a paper. As if they where to get it published to a proceeding of a conference. I am the reviewer and set a preliminary grade on their work. Then each group must defend their work with a poster session where I set the final grade on the project.

Students do get 3 different tasks to work on. These task where developed by our research team within renewable energy, but they could come up with their own strategy.

They were presented with a “conference template” in word format and the paper should be no more than 6 pages.

