

# G54SOD 2019 Group Activity: Smart Campus

Participation is required for Coursework 1

The University of Nottingham (UoN) Strategy Board has invited several consultancy teams (including your group) to come up with some innovative simulation or optimisation studies that have the potential to support them to further develop the University of Nottingham as a "Smart Campus". A smart campus is "a campus that is an efficient, safe, sustainable, responsive and enjoyable place to live and work, underpinned and enhanced by digital / internet based technologies" [1].

The aim is to better understand and improve system operations as well as system performance and service quality. Once a proposed project is of interest to the UoN Strategy Board the related consultancy team will be invited to write the full project proposal in collaboration with them.



In **Lab 4** your job (as a group) is to identify potential projects. You should look at Google and Google Scholar (<http://scholar.google.co.uk/>) in order to find out how people have used simulation and optimisation before in the given context. Try to find examples for all the simulation modelling paradigms (also consider hybrids) and the different optimisation approaches and label them accordingly. You should also add your own ideas for novel simulation and optimisation projects that you think would help the UoN Strategy Board in its ongoing quest.

Within the group rank all related projects with potential using objective and subjective measures (e.g. cost, usefulness ... you need to come up with some more) and identify the project(s) with the best potential to be picked by the UoN Strategy Board for further consideration. For the ranking you will have to write down the assumptions you made about the current operability and the problems of UoN Strategy Board that you are trying to tackle with your proposed simulation or optimisation.

**Tip:** A campus is in principle a small city. You find lots of information on smart cities which you could use for inspiration. But you have to adapt the ideas into the context of a smart campus.

**Tip:** It might also be useful to consider the interplay between the different campuses as well as between the campuses and Nottingham as a smart city.

In **Lab 5** your job (as a group) is to organise a **Focus Group** with the relevant stakeholders. Who are they? Once you identified the relevant stakeholders do some role play. Different group members should take on the roles of the different stake holders and then you should conduct some focus group discussions. The output of the focus group discussions should be some clear objectives for the study you want to undertake and what kind of solutions you are having in mind.

**Tip:** You could pick one mainstream study topic and one outsider study topic (i.e. one of your novel ideas), to clearly distinguish yourself from the other groups and to get the full attention of the UoN Strategy Board.

In **Lab 6** each group has to attend the UoN Strategy Board Dragons' Den Battle and present their proposals within a 15 minute presentation slot (including 12 minutes presentation time and 3 minutes for questions and constructive feedback from the other groups).

**Please note:** As part of coursework 1 you will have to reflect on your overall experience during this group activity in form of a short report (up to 500 words). This will account for 5% of your overall module mark. You should aim to attend all three relevant labs so that you can properly reflect on your experience. If you miss more than one lab (and have no ECs for it) you will not be able to receive any points here. So please make sure you attend at least two of the relevant lab sessions.

**References:**

[1] <https://www.nottingham.ac.uk/impetus/documents/smart-campus-uon.pdf>