# Toolkit for a Smart and Sustainable World

<table>
<thead>
<tr>
<th>Module Coordinator</th>
<th>Dr Nicholas Payne, School of Natural Sciences, Professor Siobhán Clarke, School of Computer Science and Statistics</th>
</tr>
</thead>
</table>

## What will you learn from this Elective?

People both reshape the surface of the planet and depend on its living and non-living components for survival and wellbeing. Perhaps the biggest global challenge facing humanity today is how to achieve acceptable levels of wellbeing in the long-term, while the strain on our natural environment continues to rise. This module aims to teach students about key aspects of the ‘sustainability challenge’, and the new and innovative ways of solving sustainability problems. With an emphasis on group participation, we will look to nature and technology to help us mitigate and adapt to our changing environment.

## Student Workload

- 11 hours lectures (1 per week)
- 22 hours pre/post lecture reading (2 hours per week)
- Approx. 64 hours team-building, planning, creation, justification and presentation of group artefact assessment item
- 3 hours in-module quizzes

## Assessment Components

Continuous Assessment/Coursework: 100%

Coursework evaluation is based on the end-of-year project artefact with a live demonstration, oral examination within teams, peer and teaching staff assessment of engagement and contribution and in-module quizzes (Blackboard MCQ). 50% of the marks are group-wide, and 50% is individual. Criteria for evaluation are:

1. Demonstration/presentation of artefact produced by group;
2. Oral exam in teams – answering questions based on artefact & presentation;
3. Individualised assessment of engagement & contribution based on team-members’ peer reviews and lecturer/TA observation in class and online;
4. In-module quizzes throughout the semester.

## Indicative Reading List

Further reading list/material will be provided during module.

- [https://www.tcd.ie/provost/sustainability/initiatives/](https://www.tcd.ie/provost/sustainability/initiatives/)