



Engineering, Technology, and Innovation: The Long View (MSIN3012)

Module Tutor
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Aims

The goal of the module is to introduce engineers and technologists to some of the techniques of foresight and scenario planning, including some of the many reasons why those techniques can fail. It is to give a rounded and nuanced view of the business environment into which technologies are introduced and some of the associated governance issues.

This course is intended to empower students to become innovators by familiarising them with tools to understand the future of the technologies around which students may wish to conduct innovation: both on a micro scale, looking at the technology itself; and the macro scale, examining the strategic environment in which the innovation will be launched. Specifically, through a rigorously-designed scenario-planning exercise, students will learn how to understand how the environment for your technology is developing. This will present skills to enable graduates to 'read ahead' when producing an innovation: to understand the roll out and adoption of that innovation and the competitive environment where it will appear.

Intended Learning Outcomes

After successful completion of the module, students will be able to:

- Compare a new technology with both emerging and established rivals by determining its most important applications and the criteria that will make it successful;
- Develop a project including a space specific installation demonstrating their understanding and promoting the value of their work;
- Communicate ideas clearly and meaningfully to professional, policy and public audiences;
- Understand and engage with the governance of emerging technologies;
- Reflect on their own position in analyzing technology and cultivate a rounded understanding of how their own biases may not match those of other stakeholders.
- Be practiced in multiple techniques to aid foresight and innovation;
- Employ basic tools in economics and market analysis that relate to technological trends;
- Identify areas where advances in technology will require changes in the law;
- Provide insight into current trends across a number of key industrial sectors.

Method of Assessment	Percentage weighting	To be passed in order to progress? Y/N	Examination Length or coursework word count
Coursework (Group report)	60%	N	Max 20,000 words
Presentation	40%	N	Specified as 20 min max presentation and 10 min Q&A