Course Package

Business & Society – 2B

Name module	Business & Society - 2B
Course Code	202000655
Educational programme	BSc Advanced Technology
Period	Second quartile of the second semester (Block 2B)
Study load	15 ECTS
Coordinator	A.W. Schouwstra

Business & Society			
Block 1A	**Block 1B**	**Block 2A**	**Block 2B**
			Entrepreneurship & Innovation Management **202000656** (6 EC)
			Socio-technical Futures **202000658** (4 EC)
			Data, Statistics & Probability for Engineers **202000657** (5 EC)

Required preliminary knowledge: Knowledge of Matlab; knowledge of Signals – Fourier analysis.

202000656 - Entrepreneurship & Innovation Management

In the 'Entrepreneurship and Innovation Management' course students will learn the key elements of bringing a new technology to market. First of all, one needs to understand how a firm currently creates and captures value in the market place. Second, students will learn about the human side of innovation processes, in particular effective teamwork and group dynamics. Third, since firms are not alone in the market place and products do not sell by themselves, student will obtain an understanding of the external environment of the firm in relation to product development, the role of competitors and other relevant stakeholders, and the planning towards a successful product launch. The first week of the module starts with a business acceleration programme.

202000658 - Socio-technical Futures

Implementing innovations successfully is not just a matter of a great idea and effective product or process development. It is perhaps more important to have an idea of why your innovation is important and what it will do once you put it 'out there', i.e. when you decide to make it publicly accessible on the market or otherwise. These aspects of innovation dynamics is explored in "Socio-technical Futures".

How can we shape sustainable cities and communities? Which technologies are needed and why? Will they be successful and how desirable are these technologies in society from a sustainability perspective? What can we learn from what already exists and how necessary and important are radical innovations? What kinds of futures might such technological innovations shape, and for whom? These are the kinds of questions we will explore in this hands-on course on Socio-technical Futures. We will try to find ways in which we can deal with the uncertainties of the

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future and make sensible, responsible decisions about innovations in products and processes, but also in, for example, governance approaches.

In Socio-technical Futures, the background and potential impacts of innovation in society are explored. During lectures, which will be organized as workshop sessions, we will explore and engage with societal challenges revolving around technological innovation to better understand what kinds of, and how, innovation may shape sustainable cities and communities. This approach is used to structure analysis and reflection on what impacts technological innovations may have in society. A thorough analysis of 'what is' and engagement with external organizations will represent the basis on which scenarios for the future use of innovations will be developed. The students will engage with creative methods to design and build scenarios that take into account the perspectives of a variety of stakeholders, including not only users/consumers/citizens, but also producers, markets and society in general.

202000657 - Data, Statistics & Probability for Engineers

The course 'Data, Statistics and Probability for Engineers' is a follow up on the statistics you learned during the practicals. Important topics that will be covered include: population and sample statistics, propagation of errors, hypothesis testing and analysis of variance, linear regression, regression diagnostics, multiple regression analysis, transformation of experimental data, nonlinear regression, correlation, machinelearning and reliability. Emphasis is placed on practical implementation in MATLAB.