

## **Spikker - Sieverink, B. (CES)**

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**From:** Hoeven, G.F. van der (EWI)  
**Sent:** woensdag 14 januari 2015 9:36  
**To:** Poel, M. (EWI); Spikker - Sieverink, B. (CES); Salm, C. (EWI); Passel, P. van (CTW); Akker, H.J.A. op den (EWI); Bruinenberg, M. (Martijn, Student B-CREA); Kolkmeier, J. (Jan, Student M-HMI); Lammers, F.G. (Frank, Student B-CREA); Nibbelke, V. (Vincent, Student M-HMI); Haan, S. de (Sophie, Student B-CREA); Faber, E.J. (EWI)  
**Subject:** "handleiding module 7"  
**Attachments:** 20150112 Innovation and Entrepreneurship Module 7 (2.3) CreaTe.docx

Dag leden van de OLC

Zoals gisteren toegezegd, hierbij de handleiding (heel beknopte beschrijving) voor module 7 Creative Technology.

Het laatste nieuws over de module is, dat we het Entrepreneurship deel ervan waarschijnlijk samen gaan doen met GzW.

Groet  
Gerrit

## **Creative Technology module 7 (2.3)**

### **Innovation and Entrepreneurship**

## Team

- Jann van Benthem
- Rik van Reekum
- Johnny Søraker
- Marc Uetz
- Gerrit van der Hoeven – coördinator

## Summary

The module wants to give theoretical insight into questions like: How can organizations manage their innovation processes?, How do entrepreneurs start their business after they got a great business idea? and What are professional ethics with regard to deploying new and emergent technology to improve quality of life? How can you anticipate the impact a technology may have on user well-being and the public good? Moreover the module will introduce game theory as a mathematical basis for strategic thinking.

At a practical level the student is challenged to explore (in a team) the commercialization of a technology that is chosen by the team itself.

The module has the following components

### *Innovation and entrepreneurship: Business Game*

During three days student teams are challenged to develop and maintain a business strategy, dealing with threats and opportunities the environment offers. This is the start activity of the module. The purpose is to become acquainted with terminology, concepts and issues in a practical setting, before they are introduced in the theoretical context of the Innovation and entrepreneurship component

### *Innovation and entrepreneurship: Theory*

Throughout the module students get lectures about the theory of innovation management and innovation performance, including the introduction of innovation and entrepreneurship models.

### *Innovation and entrepreneurship: Practice, bringing ideas to the market*

Students form groups and create a business idea, analyse its feasibility and identify conditions under which the idea is likely to produce revenues (which means in particular that they know which data are needed to underpin a realistic expectation of consumer needs, consumer markets, investments and resources, and that they can produce these data)

### *Thinking strategically: Theory*

Throughout the module students have two sessions (lecture and tutorial) about the mathematical foundations for strategic decision making. The mathematics involved is game theory.

### *Thinking strategically: Auction*

To prove their strategic thinking skills (and their insight in game theory) students participate in a Google Ad Auction (or a similar auctioning setup).

## Acting responsibly

Throughout the module students have afternoon sessions (partly lectures, partly discussion sessions) devoted to ethics and professional responsibility. Issues addressed are: ethical theory (the toolbox for reasoning about ethical issues), philosophy and psychology of creativity, behaviour steering, privacy, property rights, ethics of games and virtual worlds, and user well-being.

## Learning objectives

After the module

1. students have become aware of business dynamics and knowledge required to deal with it in a firm
2. students have gained understanding of alternative ways of earning a living in their future career.
3. students have gained proficiency of business jargon that helps them communicate effectively with business experts.
4. students have knowledge of the most pivotal models for analysing and developing the commercialisation of an inventive (technical) idea.
5. students have learned how to apply concepts and models in discussing and writing their business plan.
6. students have improved their team work abilities
7. students have awareness of the way venture stakeholders perceive inventive ideas and business plans.
8. students are able to critically assess the feasibility of their business concept.
9. students understand basic ethical theory, critical reasoning and professional responsibility, and on this basis are able to clarify how technologies may positively or negatively affect user behaviour and quality of life.
10. students can draw inspiration from theoretical resources, and use for the design/prototype of a technological product.
11. students can engage in unbiased and critical discussion of the ethical implications of technological innovation
12. students understand the basic mathematical foundations of game theory
13. students can apply game theory in the context of auctions as an economic platform to make business

The learning objectives 1 – 8 are covered primarily in the Innovation and Entrepreneurship component (both theory and practice). The learning objectives 9 –11 are covered in the Acting Responsibly component. Learning objectives 12 and 13 are covered in Thinking Strategically.

## Teaching and learning methods

	Thinking Strategically	Acting Responsibly	I&E Theory	I&E Practice
Lectures	16hrs		14 hrs	
Lectorial		28hrs		14hrs
Tutorial	16hrs		4hrs	
Practical				28hrs
Project				24hrs

In addition there is a business game in the first week of the quarter which takes 3 full days (at least 24hrs), and an auction competition which takes two afternoons (8 hrs)

### **Tutoring**

The tutors will organize reflection on the Business Game. (And, as part of their general responsibility, will require efforts in the preparation of the choice of profile modules in the first two quarters of year 3).

# Timetables

		week											
		1 (2-6 feb)	2(9-13 feb)	3(16-20 feb)		4(2-6 mrt)	5(9-13 mrt)	6(16-20 mrt)	7(23-27 mrt)	8 (30 mrt-3 apr)	9 (6-10 apr)	10 (13-17 apr)	
day													
mon	1-2												
	3-4												
	6-7	Strategies lecture	Responsibilities			Responsibilities							
	8-9		lectorial			lectorial							
tue	1-2	Business Game											
	3-4		Startrix lectorial			Startrix lectorial		Strategies exam					
	6-7		Startrix practical			Startrix practical							
	8-9												
wed	1-2		Strategies lectures			Strategies lectures							
	3-4		I&E lectures (60)			I&E lectures		I&E exam					
	6-7												
	8-9		Open Day Master's										
thu	1-2		Startrix project			Startrix project		"Onderwijsdag"	Startrix project				
	3-4												
	6-7		"Onderwijsdag"			I&E test				Strategies. competition		Startrix Final	
	8-9											Startrix Final	
fri	1-2												
	3-4	Strategies tutorial			Open Day Bachelor's		Strategies tutorial			Good Friday			
	6-7		I&E tutorial					I&E tutorial					
	8-9												

lectorial: mixture between lecture and tutorial

practical: practical exercises, group work, but \*not\* lab work

## Tests and assessment

The module assessment has 5 major parts. The assessment for each part is based on one or more subtests

The table shows the 5 components of assessment, and, in its final column, the distribution of the assessment in each component over subtests.

The assessment of each component results in a mark with an accuracy of one decimal. Each of these marks should be at least as high as the mark in the min-column of the table, otherwise the assessment of the module results in a fail.

If the five marks for the assessments all meet the minimum requirement, the assessment for the entire module results in a mark which is the rounded weighted average of these five, the weights used in this average computation are in the weight column of the table.

(Rounded means: substituted by the nearest integer, and if there are two integers at the same distance, by the higher of these two).

If the mark for the module assessment is below 6, a fail is registered.

	weight	min	load	
Thinking Strategically	20	5,0	3	1 written test + 1 assignment
Acting Responsibly	25	5,0	4	1 assignment
I&E Theory	15	5,0	3	1 written test, 1 multiple choice test,
I&E Practice	37	5,0	4,5	1 group report, 1 group presentation, 1 peer assessment
Portfolio course	3	5,0	0,5	1 self assessment, 1 assignment

The load column gives an estimate for the number of hours study a student must expect to spend in order to reach the learning objectives of the component. (The unit used is the EC, each unit stands for 28 hours)

Note the imbalance between the weights and the load. For the non-I&E components the ratio between weight and load (in EC) is between 6 and 7, for the two IE components these ratio's are 5 (theory) and 8 (practice).

Note also that for the two IE components taken together the ratio between load and weight is in the same 6—7 range as for the other components. One may conclude that some of the learning objectives of the I&E Theory component are tested in the sub tests for the I&E practice component.

## Materials

For the I&E components students must have the following book (obligatory)

Byers, Dorf & Nelson – Technology Ventures: From idea to enterprise. McGraw-Hill International, Third Edition. 2011. ISBN-13: 978-0073523422

For the Thinking Strategically component a reader will be available (not for free).

For the Acting Responsibly component selected articles will be made available via Blackboard (for free).

## Spikker - Sieverink, B. (CES)

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**From:** Faber, E.J. (EWI)  
**Sent:** zondag 25 januari 2015 21:04  
**To:** Hoeven, G.F. van der (EWI); Poel, M. (EWI); Spikker - Sieverink, B. (CES); Salm, C. (EWI); Passel, P. van (CTW); Akker, H.J.A. op den (EWI); Bruinenberg, M. (Martijn, Student B-CREA); Kolkmeier, J. (Jan, Student M-HMI); Lammers, F.G. (Frank, Student B-CREA); Nibbelke, V. (Vincent, Student M-HMI); Haan, S. de (Sophie, Student B-CREA)  
**Subject:** RE: "handleiding module 7"

Dag allen,

Hierbij in het kort mijn commentaar.

Allereerst, het lijkt me een uitdagende module. Ik zou deze graag zelf willen volgen. Studenten worden uitgedaagd in settings die de praktijk nabootsen (business game, auction). Volgens mij sluiten de onderdelen goed op elkaar aan.

Vragen:

- Wat is de samenhang tussen de onderdelen? Die is er vast wel maar ik zie het niet sterk terugkomen in de beschrijving.
- Module leerdoelen zijn vaak abstract opgeschreven omdat ze van zo'n hoog (top level in de module) niveau zijn. Sommigen hier zijn echter heel algemeen. Bijvoorbeeld nummer 6: students have improved their team work abilities. Waar ligt het accent dan op in deze module? Gaat het om verbetering van samenwerken door intercultureel inzicht, communicatieve vaardigheden, efficient vergaderen, etc.?
- Hoe is de workload per week? Is de module evenwichtig opgebouwd?
- Wat en hoeveel zijn de deliverables en deadlines per week?
- Hoe is de balans tussen verroosterde uren versus zelfstudie uren? (in vergelijking met vorige modules zullen studenten dit rooster denk ik een verademing vinden).
- Wanneer zijn de resits ingepland?
- Wat is het evaluatieplan?
- De slaagregeling voor de module is: "if the mark for the module assessment is below 6, a fail is registered". Dit gaat dus al om het afgeronde cijfer en niet om een 6.0? Het staat er al wel maar ik check het toch even omdat in modulehandleidingen de zak-/slagregeling het meest gelezen onderdeel is :-).

Groeten,  
Erik

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**From:** Hoeven, G.F. van der (EWI)  
**Sent:** 14 January 2015 09:35  
**To:** Poel, M. (EWI); Spikker - Sieverink, B. (CES); Salm, C. (EWI); Passel, P. van (CTW); Akker, H.J.A. op den (EWI); Bruinenberg, M. (Martijn, Student B-CREA); Kolkmeier, J. (Jan, Student M-HMI); Lammers, F.G. (Frank, Student B-CREA);



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