SYDDANSKUNIVERSITET.DK

Science Innovator

September - December 2010
Ph.D. course

Science Innovator Ph.D. course at the University of Southern Denmark. The course is particularly relevant for Ph.D. students from the Technical, Natural Science and Health Faculties, but Ph.D. students from Social Science and Humanities are also welcome.

Overall aim
The overall aim of the course is to improve the competences of Ph.D. students/researchers related to commercialize their technological ideas.

This is relevant for all Ph.D. students who want to prioritize a research career while also finding it useful to understand commercialization and IP sales processes.

The cource consist of two parts and both part 1 and 2 are increasingly relevant for Ph.D. students, particularly science/technology Ph.D.'s as a 'pure' university research career only is an option for a minority of the growing number of science/technology Ph.D.'s while the majority should rather envision a career with shifts between research activities, venturing/innovation activities in existing technological firms and start-up activities.

In such a career, ability to transform scholarly knowledge to products and services in innovative and cross-disciplinary contexts is increasingly important.

Staff
Core staff is Professor Torben Bager (IDEA/Dept. of Entrepreneurship and Relationship Management), lecturer Søren Jensen (The Technical Faculty/IDEA) and MBA/serial entrepreneur Ivan Tyrsted (IDEA). A number of guest lecturers are invited such as commercialization experts from the University of Southern Denmark and venturing experts from technological firms, financial institutions and facilitator organizations.

Work load and ECTS
The course is expected to generate 5 ECTS in total.

Part 1 encompasses 24 hours of class room teaching (3 full days) combined with project and home work amounting to about 40 hours. The project work is about turning a technological idea into a Proof of Concept, described in a report. Ph.D.'s get 2 ECTS for Part 1.

Part 2 encompasses 24 hours of class room teaching (3 full days) combined with project and home work in about 60 hours. The project work is about turning a Proof of Concept into a business plan. Ph.D.'s get 3 ECTS for Part 2.

Language:	The course language is English (unless all participants are fluent in Danish).
Price:	The course price is 5.000 DKK per participant.
Time and place:	Part 1 will run from September to end October 2010. Class room teaching takes place. September 15, 16 and 17. Part 2 will run from November to mid December 2010. Class room teaching takes place November 3, 4 and 5.

All class room teaching will be at the University of Southern Denmark (Odense).

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Examination
Part 1 examination is based on Idea & Proof of Concept project reports. The document size is max 10 pages per participant (15 pages for group projects). Teams can submit group projects, but the contribution of each group member should be stated clearly in the document. Projects are evaluated pass/not pass.

When passed, and provided they have followed all three days of class room teaching, participants receive a Part 1 examination certificate.

Part 2 examination is a combined written and oral process. The business plan size is max 10 pages per participant (15 pages for group projects). Teams can submit group projects, but the contribution of each group member should be stated clearly in the document. In addition to this written document an oral presentation and discussion session is organized, with participants making an elevator pitch plus a deeper presentation of their plan on the basis of which they are examined by university/venturing experts as if they themselves were planning to invest in the new venture.

Participants who deliver a satisfactory project report and oral pitch/presentation/defense and have participated in the 3 class room teaching days receive a examination certificate for the entire course (Part 1 and 2).

Literature
Løwe Nielsen, S., K. Klyver, M. R. Evald & T. Bager (2009): Entrepreneurship in Theory and Practice – Paradoxes in Play (2009). University Press of Southern Denmark (www.idea-textbook.dk), (260 pages, selected chapters: Part 1: Ch. 1,2,3,4,5; Part 2: Ch. 7,8,9)
Byers, T. H., R.C. Dorf, A.J. Nelson: Technology Ventures – from Idea to Enterprise. McGraw Hill (Third Edition, 704 pages, selected chapters: Part 1: Ch. 1,2,3,4,5; Part 2: Ch. 6,7,8,9,10,16,17,18,19)

Methods, tools and links
Den Kreative Platform (www.krealab.aau.dk)
Camp Guide – Genvej til unikke ideer (www.idea-sdu.dk)
IDEA Business construction tool (physical tool for team based business construction)
E-tool for systematic venture evaluation (www.IDEA- VIQ.dk)
Video cases related to textbook (www.IDEA-toolbox.dk)
www.startvaekst.dk
www.evca.com
www.vaekstfonden.dk
http://ecorner.stanford.edu/ (videos and documents, Stanford University)

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Program – Part 1

Wednesday September 15

Morning session: Introduction and idea generation

- Introduction to course (Torben Bager & Søren Jensen)
- Clarification of intentions/motivations/backgrounds of the participants
- Personal characteristics, venturing activities and performance (Torben Bager)
- Idea generation: Experiencing a technology driven idea generation process (introduction/creativity theory; presentation of a techno logical invention; idea generation on applications of this invention (group work); preliminary sorting of selected ideas)

Afternoon session: Frameworks for commercialization and venturing

- Idea generation session (continued)
- The Danish entrepreneurship & commercialization policy framework (Torben Bager)
- The advisory and financial infrastructure for venture activities (Søren Jensen)

Thursday September 16

Morning session: Opportunity recognition and costumer needs

- From idea to opportunity recognition (introduction/theory; Pain & Value Proposition; plenary and group sessions based on an observed Pain (Torben Bager)
- Planning logic and effectuation logic - The Claus Meyer case - an effectual, improvising and costumer driven entrepreneur (Torben Bager)
- The shaping of a technological idea according to user/customer needs (Ulrik Jensen, CEO, SCF Technology)

Afternoon session: Frameworks for commercialization and venturing

- Rules and processes related to university based inventions and commercialization (Lone Wichman, SDU Forskerservice)
- Data base search – how to search systematically for new technologies, competitors and markets (Hanne Danielsen/Jette Jorsdal, SDU Library
- Connect Denmark and springboards for knowledge intensive/technology entrepreneurs (Mikael Tipsmark, Connect Denmark (not confirmed)

Friday September 17

Morning session: Proof of Concept

- What is Proof of Concept – and how is Proof of Concept support to researchers handled? (Lars Stig Møller, SDU Forskerservice)
- Proof of Concept case – moving from an idea to a concept (cross-disciplinary group work based on a technological idea) (Søren Jensen)

Afternoon session: Venturing and IPR in practice

- Introduction to Intellectual Property Rights: patent and trademark processes in practice (Ivan Tyrsted, IDEA Entrepreneurship Centre)
- Venturing in a private company: How Danfoss foster and develop new ventures (Stig Poulsen, Director, Danfoss Ventures)
- Team formation for Proof of Concept project
- Preparing Part 2 of the course on business development & planning

After the September class room teaching sessions, participants work, guided by Søren Jensen and Torben Bager, with their Proof of Concept projects. Blackboard is used to load documents and facilitate discussion during the process. The completed Proof of Concept project documents are submitted October 25, 2010).

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Program – Part 2

Wednesday November 3

Morning session: From Proof of Concept to Business Development

- Introduction (Ivan Tyrsted)
- Participants present technological or market driven ideas/concepts for new ventures (elevator pitches by participants)
- Group work: SWOT analysis of the suggested ideas/concepts and discussion
- Plenary: Presenting SWOT results, prioritizing ideas and forming cross disciplinary teams

Afternoon session: Evaluating venture ideas

- Group work: Using IDEA-VIQ to analyze the selected new venture ideas/concepts
- Presentation of VIQ results and further discussion of ideas/concepts
- The Business Plan (Hans Eibe Sørensen, associate professor, SDU)

Thursday November 4

Morning session: Strategy, business models and market analysis

- Approaches to strategy – deliberate or emerging? (Torben Bager)
- Business models and value chains (Mette Præst, professor, SDU)
- Market analysis (Kristian Philipsen, associate professor, SDU)

Afternoon session: Networks and start up processes

- Networking and start up processes – incl. personal network exercise (Kim Klyver, assistant professor, SDU)
- Venturing and networking in the Silicon Valley (Lars Beer Nielsen, Research and Technology Attaché, Innovation Centre Denmark, Silicon Valley)

Friday November 5

Morning session: Economics and venturing

- How to make a budget and a financial plan for a new venture (Klaus Holmsberg, CEO, Syddansk Teknologisk Innovation A/S)
- Budget exercise based on a case (Søren Jensen)
- The venture investment process (Jens Kristian Damsgaard, CEO, Science Ventures Denmark A/S)

Afternoon session: intellectual Property Rights

- Handling IPR (Frank Petersen, Intellectual Property Rights Manager, Ecco A/S)
- Group work: investigating IPR related to the proposed venture ideas/concepts
- Presentation techniques and elevator pitch exercise (Søren Jensen)
- Planning Business Plan projects and examination (Søren Jensen)

After the October session participants elaborate their business plan reports individually or in groups, guided by Ivan Tyrsted and Søren Jensen. Dead-line for business plans are December 10, 2010. Oral examination takes place December 16.