

Course 42705 Knowledge based Entrepreneurship  
PhD – level, DTU April – June 2008

Thursday, 23 June 2008/JH

## Evaluation Report

### Background

Course 42705 is a concentrated course on applied entrepreneurship for PhD students.

Participants are engineering PhD fellows from Technical University of Denmark, including an international wing of visiting students from China, other European countries and USA. (App 50% of the class)

Course objectives: to deliver useful and portable knowledge on how to start a venture capital backed high tech company, based on the students' own ideas and competencies.

The course includes six afternoons, each three hours lecturing, combined with group work on idea generation, market analysis and business planning. Groups are three to five participants. Further, each group is individually coached through 2 – 3 meetings with the teacher, two assistant teachers with a background from Copenhagen Business School (Esben Christensen and Hjalte Højsgaard) and one with an international background as manager of a Danish subsidiary of a global company within logistics. (Alex Farcet)

The projects are evaluated 2/3 on the written and 1/3 on the oral presentation. Censor is associate professor Kristian Phillipsen, Syddansk Universitet, Kolding.

### Course 42705 – 2008

The 2008 course is the fourth in line. In 2005, 8 students concluded the course. In 2006, the number increased to 14 students, in 2007 30 students passed. In 2008 the number decreased again to **21 students**.

This corresponds to app. 8% of a year of new PhD fellows, which again is significantly below our ambition of exposing between 15% and 25% of the annual uptake of Ph.D fellows to practical knowledge based entrepreneurship.

Themes covered are:

1. Applied entrepreneurship: basic experiences
2. Opportunity-driven creativity
3. Business modelling: from idea to start-up strategy
4. Business planning
5. Financing – emphasis on pre-seed, seed and early stage venture capital
6. Market economics (Michael Porter's Five Forces as a core methodology)
7. Sales and marketing
8. Business management
9. Budgeting – emphasis on cash flow projections and capital demand
10. IPR – with emphasis on patents in the start-up context.
11. Business law: emphasis on employees, shareholders, management and contracts.

### Teams

7 groups submitted and presented their business plans at exams. Average mark is 9.3. Dispersion is 3.2. (ref.: the 7-step scale). The general quality of projects submitted at the 42705 PhD-course 2008 was better then ever before.

### Ideas

All groups worked with aspects of their field of engineering. Thus, all business ideas are based on advanced technical knowledge. All of them involved venture capital investments.

### Quantified evaluation

18 students returned an evaluation questionnaire, allowing us to compare the 2008 course with courses from previous years and to measure the impact of changes..

|   | 1         | 2    | 3          | 4    | 5         | Answ. no. | Mean on 1 to 5 | Last year |
|---|-----------|------|------------|------|-----------|-----------|----------------|-----------|
| The Course  | Very poor | Poor | Acceptable | Good | Very Good |           |                |           |
| Teaching materials: quality is -  |           |      | 4          | 7    | 7         | 18        | 4,2            | 3,8       |
| Didactics (lectures + own project + presentation) as a teaching method vs. course objectives is - |           |      | 1          | 11   | 6         | 18        | 4,3            | 4,0       |
| Relationship between outcome and workload is -  |           |      | 3          | 9    | 6         | 18        | 4,2            | 4,0       |
| Did the course live up to your expectations? Degree of fulfillment is -                           |           | 1    | 1          | 7    | 9         | 18        | 4,3            | 4,2       |
| Exams: the evaluation form (written + oral, groupwise)  |           | 1    | 2          | 7    | 7         | 17        | 4,2            | 4,1       |

Clearly the answers reflect satisfied customers and a certain degree of enthusiasm – still with room for improvement. The evaluation has improved slightly compared to 2007. Most markedly within teaching materials, indicating that the new textbook, which was finalized just before the course started, was well received..

Teacher (the undersigned) and assistant teachers were evaluated also and with quite encouraging results. Noticeable is the evaluation of the professional level of assistant teachers and teacher (4,5 and 4.6 with 5 as the max. obtainable).

### Comments and suggestions received

The predominant appraising comments relate to external lecturers. See names below. Their importance to the outcome of this course is paramount.

The critics and the suggestions mostly relate to the highly compressed time table. One or two more afternoons are suggested together with shorter lectures and more breaks.

### Visiting lecturers:

Our guest speakers are highly appraised. They put theory in a practical perspective, they are role models, and they are living proofs that the course contents can be converted into successful business start-up projects.

This year, we had the pleasure of having following visitors in the lecture room:

- Trine Nygaard Hansen, Regional manager, Copenhagen, Venture Cup Denmark
- Morten Thorhauge, CEO and co-founder of AdvaLight and DTU 2006 PhD entrepreneurship class alumnus
- Brian Bielenberg, CTO and co-founder of NIL Technologies, Venture Cup winner 2006 and DTU 2005 graduate entrepreneurship class alumnus
- Peter Tøttrup, partner, Seed Capital & DTU Innovation A/S.
- Jakob Sand, CEO and co-founder, Capital+: pre-seed/seed VC investment company.

### Does it work at all?

In 2007, professor Erko Autio, Imperial College, Tanaka School of Business, in our international benchmark study; "Entrepreneurship Teaching and Training in the Copenhagen Region", published the conclusions of a GEM study on the impact of framework conditions on entrepreneurial activities. He found, that entrepreneurship courses in higher education significantly influence the business birth rate, basically since such courses influence young people at a point in time when they make lasting decisions on their future careers.

