Dimittendundersøgelse 2012 – Civilingeniøruddannelsen i Innovation and Business

Indledning

Det Tekniske Fakultet udarbejder fra 2012 uddannelsesspecifikke dimittendundersøgelser på alle uddannelsesretninger. Undersøgelserne vil omfatte de seneste tre årgange, der er dimitteret fra uddannelserne. Det forventes, at dimittendundersøgelserne vil blive gennemført hvert 3. år, og dermed vil alle dimittender på et tidspunkt kunne deltage i en undersøgelse.

Denne undersøgelse er rettet mod dimittender fra årene 2010-2012 på civilingeniøruddannelsen i Innovation and Business. Den samlede dimittendpopulation for alle tre år er på 34.

Spørgeskemaet er udsendt elektronisk i oktober/november 2012 til 25 dimittender. Det har været svært at finde mailadresser på dimittenderne, ikke mindst fordi uddannelsen tiltrækker mange udenlandske studerende. Således er hele 22 ud af 34 dimittender fra andre lande end Danmark, eks. 7 dimittender fra Kina.

Ud af de 25 dimittender, der har fået tilsendt et spørgeskema, har 17 svaret, dvs. at der opnået en svarprocent på 68 %. Besvarelserne fordeler sig med hhv. 1, 5 og 11 på årgangene 2010-2012.

De følgende analyser opgøres ikke i procent, men i tal, da datagrundlaget ikke er særlig stort.

1. Erhvervsstatus

Blandt de 17 dimittender, er 13 i beskæftigelse, en er ph.d.-studerende og tre er ledige.

For de 13 i beskæftigelse er 12 fastansatte, mens en enkelt er ansat i en tidsbegrænset stilling.

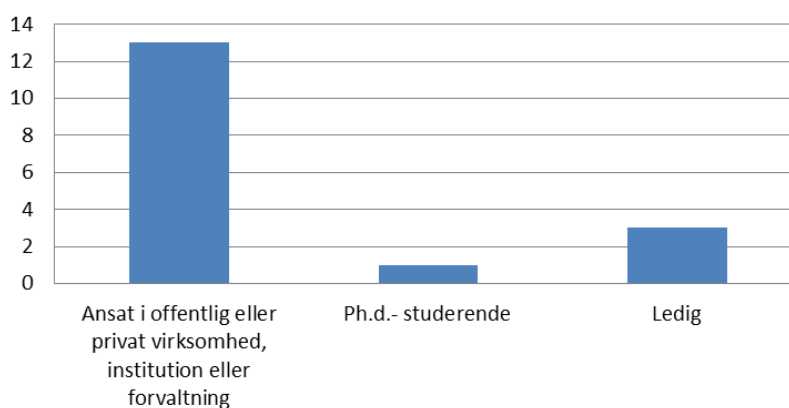Ingen af de tre ledige har været i beskæftigelse siden de dimitterede.

Størstedelen (10) har fundet beskæftigelse inden for 0-3 mdr. efter dimission, og yderligere tre efter 4-6 mdr.

Status på beskæftigelse

12 dimittender er ansat i den private sektor, men de sidste to er ansat i hhv. den offentlige sektor og i et offentligt-privat partnerskab.

Dimittenderne er ansat i forskellige brancher uden en klar overvægt.

- Maskin-, Jern- og Metalindustri (4)

- Forsyningsvirksomhed, Vand, Energi og Affald (3)
- IT- og Telekommunikationsvirksomhed (3)
- Forretningsservice, Finansvirksomhed mv. (1)
- Rådgivende ingeniørvirksomhed (1)
- Andet (2) : Toy industry og Retail chain stores

Seks dimittender har arbejdssted i Region Syddanmark, fire er ansat i andre regioner, mens fire er ansat uden for Danmark

10 er ansat i større virksomheder (>250 ansatte), mens de øvrige fire fordeler sig jævnt mellem små og mellemstore virksomheder.

Ansættelsessted
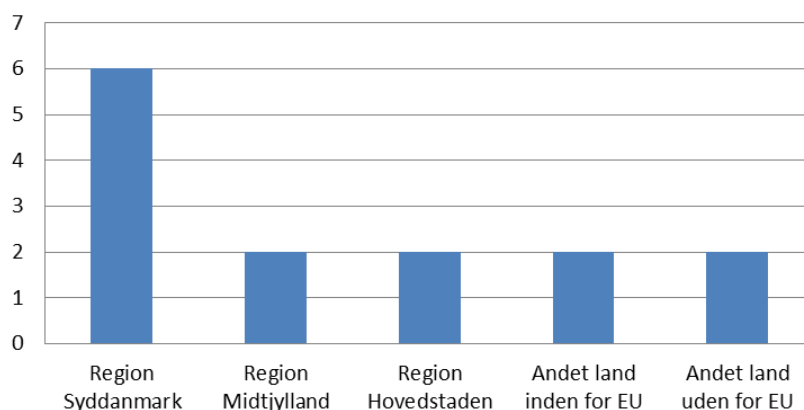
1.1 Sammenhæng mellem beskæftigelse og uddannelsens faglige område

Dimittenderne er blevet spurgt om, hvilke arbejdsopgaver, de bruger mest tid på i deres job.

Arbejdsopgaver inden for ledelse og organisation samt produktudvikling og innovation fylder mest.

I vurderingen af sammenhæng mellem job og uddannelse svarer tre, at jobbet ligger inden for uddannelsens faglige område. 11 har svaret, at jobbet ligger uden for uddannelsens faglige område, men kræver generelle kvalifikationer erhvervet via uddannelsen.
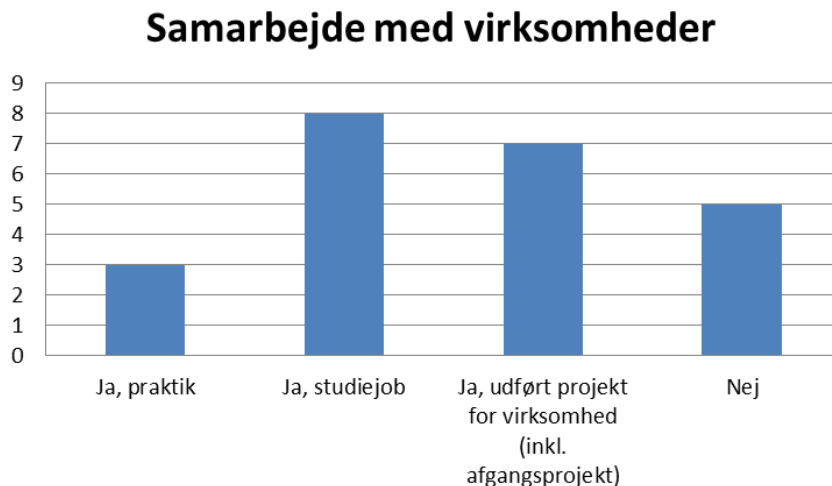
Arbejdsopgaver, der fylder mest
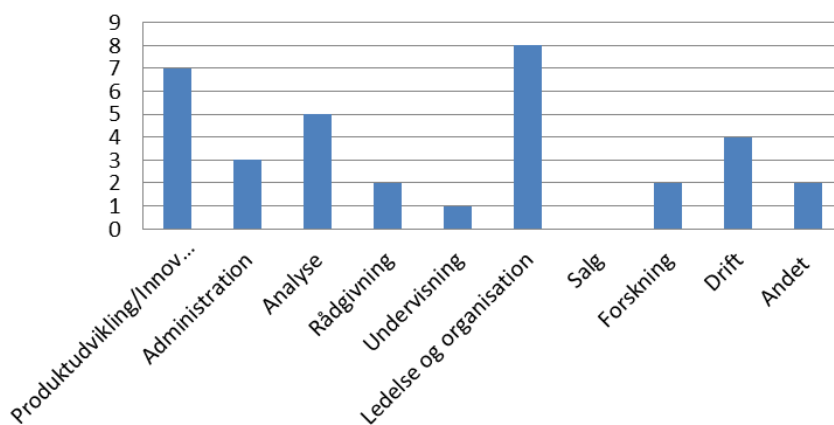
2. Vurdering af uddannelsen

Tre dimittender har været i praktik, seks dimittender har haft studiejob og fire har udført projekt for en virksomhed.

Særligt studiejob vurderes i overvejende grad at have givet erfaring, der kan bruges efter endt uddannelse.

Samarbejde med virksomheder

Dimittenderne blev spurgt om, hvad de mener har været afgørende faktorer ift. at få det første job. Her vurderes personlige og faglige kvalifikationer som de to mest betydende faktorer.
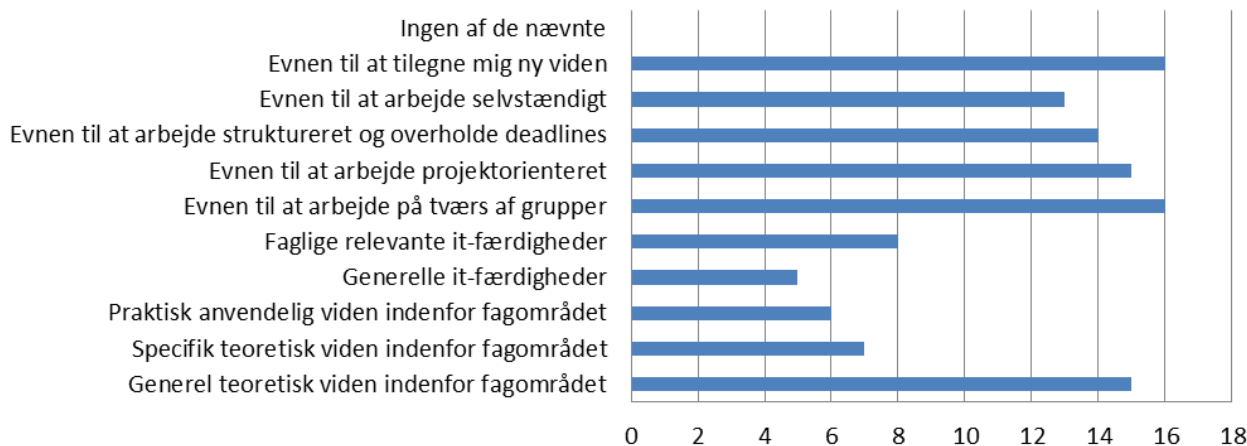
Faktorer ift. første job
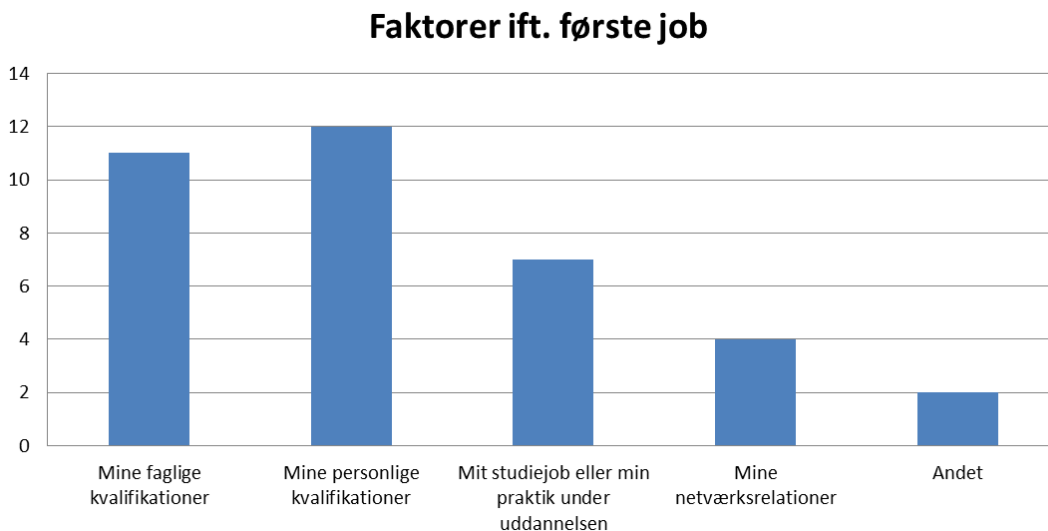
2.1 Tilegnede kompetencer og kvalifikationer

Dimittenderne er blevet adspurgt, om de gennem uddannelsen har opnået de nødvendige faglige kvalifikationer og kompetencer, der skal til for at virke professionelt inden for uddannelsens typiske erhvervsfelt. Her svarer 10, at det har de i overvejende grad, mens fire svarer, at det har de i overvejende grad ikke.

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I den nedenstående tabel ses hvilke kompetencer og kvalifikationer dimittenderne vurderer, at de har tilegnet sig via uddannelsen.

Kompetencer og kvalifikationer via uddannelsen

Kompetence	Værdi
Ingen af de nævnte	0
Evnen til at tilegne mig ny viden	16
Evnen til at arbejde selvstændigt	13
Evnen til at arbejde struktureret og overholde deadlines	14
Evnen til at arbejde projektorienteret	15
Evnen til at arbejde på tværs af grupper	16
Faglige relevante it-færdigheder	8
Generelle it-færdigheder	5
Praktisk anvendelig viden indenfor fagområdet	6
Specifik teoretisk viden indenfor fagområdet	7
Generel teoretisk viden indenfor fagområdet	15

I spørgeskemaet var der mulighed for at uddybe hvilke kompetencer og kvalifikationer man gerne så uddannelsen også indeholdt, eller lagde mere vægt på. Dimittenderne har svaret (en dimittend har svaret meget grundigt med forslag til nye kurser – se bilagsrapport):

- Though we had project management courses we did not learn any tools that will help us doing so. The learning in this field was from an inexperienced team (project management wise).
- Financial Analysis, Financial Management, SAP-skills
- Project management with a pragmatic approach. More technical courses and practical programing (as opposed to the theoretical) - the complex processes and thinking you need to solve those tasks are highly valuable on business site as well as the technical site (hence it is highly applicable for IBs)
- Practice, practice and again practice. We didn't have that many projects together with companies... That's more important than only plain theory.
- SAP skills under the supply chain
- Innovation and Business in IT industry, I wonder why there are basically no cases or course focuses on IT industry where a lot of innovations happened during past decades - a lot more than traditional industry which we spend a lot time to study.
- Digital handling of documents, professionalism etc. The University of Southern Denmark is to my oppinion NOT in line with the current development within IT and organization in companies in general. I was happy to end the university and meet organized and professional people.
- Interdisciplinary industry/company related projects

Afslutningsvist blev dimittenderne adspurgt om de ville anbefale uddannelsen til andre og her svarer 13 ja, mens to har svaret nej. De uddybende svar hertil er:

- There was no clear career path associated with the study. No practical skills for starting a business in Denmark were provided. The study was highly theoretical with emphasis on reading and writing scientific texts.

- I believe that Innovation and Business study program should have 2 different focus areas - one for academics and one for students who do not want to do PhD. For instance, there could be developed M.A. Innovation and Business as a parallel course for M.Sc Innovation and Business. Thus after graduating Bachelor students can choose wheather to go for academic or more into real life business. But overall, the program is giving quite wide background of different topics. PS. I can only speak about Master programme because I only graduated from M.Sc. Innovation and Business.

- My answer is yes and no or 50/50. Because there where very interesting and necessary subjects, but some of them was just a waste of time.

- It's quite inernational, very good experience

- My thesis supervisor Dennis Wissendorf Marzec is unprofessional, he added an additional supervisor to my thesis without noticing me and no one tell me I have the 2nd supervisor until I figured out myself 10 days before I handed-in my thesis (not even my 2nd supervisor). I'm very disappointed with the way their work. It was the most not nice part of my study, I like the rest parts generally. I have sent the feedback to the study broad.

- I have had too many bad experiences through my study. I was accused for cheating with no reasoning or hold in arguments. After 3 months I was proven NOT GUILTY, but this period postponed my entired studyprogram 2 years. It furthermore left me bitter and de-motivated for my study!! My voluntary work in Intro-team etc. did not help me in the above mentioned situation and to my dissappointment, my collegues at the study-office didn't either help me! I was generally happy about my study-programme until I was sacked mentally from the above. :-(

Bilag

1. Stillingsbetegnelse

- Project Manager (3 dimittender)
- Product Manager/Purchase Manager
- Graduate Program (Current position: Project Engineer)
- Business Developer
- Programmer
- Cloud services support engineer
- Konsulent
- Project engineer
- Production Engineer
- Regional Planner - Supply Chain Management
- Project engeineering - Mechanical design

2. Virksomheder, hvor dimittenderne er ansat i

- Rautakesko AS
- Siemens Wind Power (2 dimittender)
- Nordea Bank A/S
- CJSC "TMHB"
- Hedal Kruse Brohus
- Microsoft, contract through Manpower
- NTS-centeret
- Viking life saving equipment
- Sauer-Danfoss
- Marel

<u>3. Dimittendforslag til kurser på uddannelsen</u>

Please state the skills that you miss or which would have been a part of your study programme:

Ideas about the study of Innovation and Business. Here I present some rough ideas about possibly useful courses for the study of Innovation and Business. A study could contribute by teaching the students to start their own businesses (to become self-starters) or by giving them skills to work for companies (to become future employees). After each idea, I have mentioned in my opinion to what extend a proposed course would contribute to the self-starters and to the future employees. Some of the proposed courses are offered by other institutions as 6-uger selvvalgt uddannelse for unemployed people.

Ideas for courses:

<u>1. Business in Denmark</u>

Idea behind the course: Many students, especially the foreigners, do not have an idea how to open and run a business in Denmark, neither have an idea of how much it would cost them and what administrative barriers to expect. This is an absolutely basic course for anyone who wants to be a self-starter.

Value of the course for the…:

- Self-starters: very high
- Employees: none

Content of the course

- administrative procedures;
- institutions;
- taxes
- costs;
- export and import – procedures, documents, cross-border payments, modes of transport, transportation companies, locations for warehouses;
- advise for best practices;
- what to know when you hire people in Denmark; Danish mentality; information about the Danish taste and Danish consumers – what they put value on;
- who should you hire – legal, accounting, etc.;
- assisting organizations – Idea House, etc.;
- competitions – Venture Cup, etc.;
- how to find a venture capital;
- major associations of different industries;
- how to find a manufacturer for your product or for creating a prototype;
- general advise of how to find out what kind of companies from your home country a particular Danish company could be interested in; who is the person inside the Danish company to contact;
- how to find and contact the partners in your home country (of course it depends on the country).

2. Commercial websites

Idea behind the course: The course gives basic knowledge in creating and maintaining websites. Self-starters can use it to create and maintain their businesses' home page, thus saving money. Also, they would have a deeper understanding of what a good website is. Let us not forget that sometimes the website is the business itself. Employees can use this knowledge to create websites for companies.

Value of the course for the…:

• Self-starters: high
• Employees: medium

Content of the course:

• website creation engines – Joomla, etc.
• how to be found by search engines
• hosting
• how to create traffic
• how to make money
• online payment methods
• how to position your advertisement on other websites
• how to reach your target auditory
• how to sell advertisement space on your site
• how much money to ask for advertisement on your web site
• how much money is reasonable to ask from others for advertisements
• if you need certified translators, where to find them
• costs.

 3. Creative techniques

Idea behind the course: The course teaches various techniques for creating and assessing ideas. Self-starters can use it to get ideas for a business.

Value of the course for the…:

Self-starters: high

Employees: low.

Very limited possibilities for work in companies, for example, as a facilitator for workshops, provided that you have excellent communication skills and you master the language of the workshops.

Content of the course:

- brainstorming, six hats, participatory innovation, etc.
- presentation skills
- connection to established companies and startups who want to use people for various tasks in new product creation
- self-starters should be clear of their business concept at the end of this course – a site, a shop, a material product, work for a company, etc.

4. Negotiation techniques

Maybe also including how to present ourselves at an interview.

Value of the course for the…:

- Self-starters: high
- Employees: medium.

The value here is the understanding of how to present ourselves at an interview. Additionally, the negotiation techniques have some value for jobs in purchasing and maybe in marketing. Negotiation skills can supplement project management skills for project management positions. The challenge here is that it is hard for a newly graduated student to get a project management position and for a non-Danish speaker to get a marketing position. Also, the study may need to add some more relevant courses for purchasing to enable this career path for the students. See the next two courses for examples.

5. Project Management

Idea behind the course: Provides a project management certification (for example Prince2).

Value of the course for the…:

- Self-starters: low
- Employees: medium.

It may be hard to find a job only with it, but is a good supplement to hard technical knowledge and to the negotiation techniques courses.

6. Operations management

Idea behind the course: Gives knowledge in the areas mentioned below in the content of the course.

Value of the course for the…:

Self-starters: none

Employees: medium.

It may be hard to find a job in the areas mentioned below only with one course, but it is definitely a plus.

Content of the course

• Inventory management
• Logistics
• Demand and capacity planning
• Purchasing
• LEAN

7. Statistics

Idea behind the course: Somehow supplementing the Operations management course, statistics is a base in many jobs in quality control, pharmaceuticals, chemistry, process improvement (Six Sigma), finance, and quantitative research. However, there are limited possibilities to be hired only because of this course, especially if it is not a really advanced course. Should be combined with other types of knowledge.

Value of the course for the…:

• Self-starters: none
• Employees: medium.

8. Business plan

Value of the course for the…:

• Self-starters: very high
• Employees: very low.

Very limited possibilities for work in companies, for example, as a one time service of writing a business plan for a startup.

9. Accounting

Idea behind the course: The course teaches how to do accounting in a small (own) company. However, if it is cheap enough for external companies to do the accounting of the startup, then this course is not really needed.

Value of the course for the…:

• Self-starters: medium
• Employees: medium.

Can be eventual plus if applying for jobs in finance or working with ERP systems. However, additional courses in these areas may be needed to enable these career paths (see the net course).

10. Introduction in SAP (or another ERP)

Idea behind the course: Knowledge in an ERP system is a plus for many jobs in large companies. There are also jobs, directly targeted to ERP systems, like ERP specialist.

 Value of the course for the…:

• Self-starters: none
• Employees: high.

11. Freelance programming

Idea behind the course: Creating flash games, PHP programming, mobile phone applications.

Value of the course for the…:

• Self-starters: varies; The business of the self-starter can be creating mobile phone applications, for example.
• Employees: ?

12. Graphical design software

Idea behind the course: Teaching the students how to work with graphical design software.

Value of the course for the…:

• Self-starters: high, especially if they want to produce a material product.
• Employees: medium.

Some additional technical or design knowledge may be needed to work as a designer in a company.

13. Materials knowledge

Idea behind the course: Teaching the students about the properties of different materials.

Value of the course for the…:

• Self-starters: high, especially if they want to produce a material product.
• Employees: medium.

Some additional design knowledge may be needed to work as a designer in a company.