

## Course 42799

# DTU PhD PATENT COURSE 2014

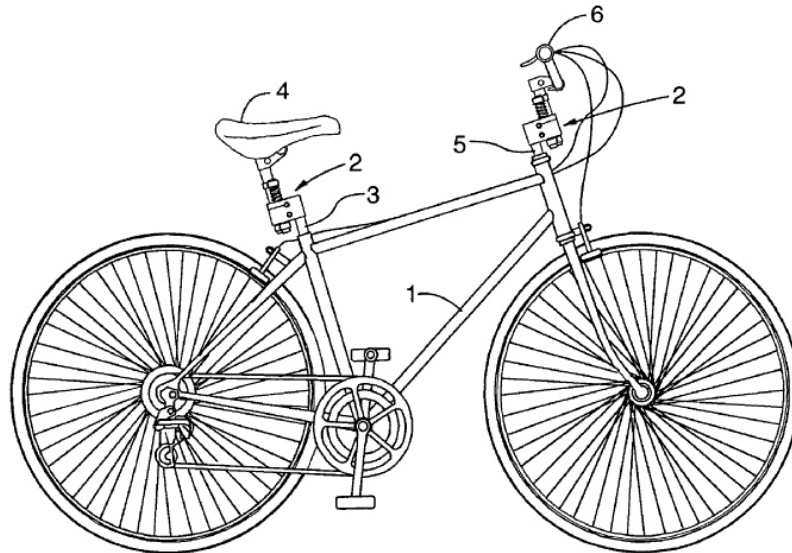


FIG.1

Week 3, 13 – 17 January 2014

DTU Management Engineering offers a generic course on patents and commercialization of research inventions, know-how and technology from university and industry to DTU PhD fellows and DTU innovation/technology transfer responsible staff.

**Check [www.entrepreneur.dk](http://www.entrepreneur.dk)**

**Sign up: contact [johe@dtu.dk](mailto:johe@dtu.dk) before 3 January 2014**

**LOCATION: Building 324 room 020**

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# 42799 - Patent Course

Week 3 at DTU 2014

All you need to know about patents and commercialization of research results and inventions.

3 January 2014

## Frame

3 ECTS = 75 hours total study effort.

5X two hours sessions in the morning

5 X three-hour afternoon sessions

Group work – planned and at your own discretion. Supervisor available as needed and requested.

A confidentiality-agreement will be signed by all students to protect sensitive information.

## Assignment

Groups: Develop a draft commercialization plan for the exploitation of IP generated during research. Pitch it at the end of the course.

Individuals: Make a novelty search with experts from the Danish Patent Authorities.

## Course rationale

It is a revolving statement that graduates and researchers need more business acumen to effectively fit into a commercial R&D setting. (R&D at universities is not exempt from this context nowadays)

It is further widely assumed that engineers and scientist often loose business opportunities due to lack of skills and awareness in commercializing IPR.

It is frequently proven that perspective commercialization opportunities are damaged or lost by involuntary disclosure owed by R&D staff ignorant of basic patent law.

With these issues as a “point of departure”, the course on commercialization of IPR aims at providing the competencies and skills needed for engineers and scientists to:

1. Identify commercial opportunities emerging from R&D
2. Draft the IPR map (novelty, infringement, usefulness etc.)
3. Prepare draft commercialization proposals
4. Work efficiently with specialists within patenting, research & development, business development and financing in a collaborative effort to commercialize new technologies and inventions.

## Learning objectives

By the end of this course, students will...

1. Know the main categories of IPR (Patent, Copyright, Trademark and Trade Secrets)
2. Know how to conduct an initial novelty search
3. Know the basics of drafting a patent application
4. Know how to develop appropriate demand-driven commercialization strategies and/or business models
5. Know how to draft a commercialization plan or a business plan
6. Know how to work efficiently with tech trans officers and other IPR professionals

## Pedagogies & didactics

CDIO-context: "Conceive – Design – Implement – Organize"

**Lectures** provide knowledge frameworks. **Group work** provides training via creation of inventions, designing IPR commercialization strategies, implement and organize commercialization via market research, -analysis and draft business planning.

The lectures are provided by guest lecturer from industry and university practitioners.

### Training:

1. Group work on a commercialization plan for university- or industry-owned IPR
2. Individual assignments:
  - a. Novelty search
  - b. Drafting a patent commercialization strategy for a given task that could be participants' own invention or ideas generated by the group or IP from the DTU patent catalogue.

### Textbook

**Recommended – not mandatory:** "Inventing Entrepreneurs" Technology Innovators and their Entrepreneurial journey. Gerard George, Adam J. Bock. Pearson Prentice Hall, 2009, ISBN-13: 978-0-13-157470-0, ISBN-10: 0-13-157470-1. Authors note: " -- to provide direction, guidance, and insight to faculty members and students interested in pursuing an entrepreneurial path". Including central chapter: 4: Technology Licensing, chapter 6: The Entrepreneurial Academic and chapter 8: Sample Journeys.

### Themes

1. Intellectual property law
  - a. Trademarks, design & copyrights
  - b. Patents:
    - i. Conventions and treaties
    - ii. Requirements (novelty, invention, usefulness)
    - iii. Structure (prior art, specific description, claims, abstract, drawings etc.)
  - c. Ownership: university vs. industry vs. individual inventor
2. Patents
  - a. Novelty search
  - b. Infringement
  - c. Relations between patents
  - d. Quality measures in patents
3. Commercialization strategies
  - a. Licensing or spin-out companies
  - b. The basic licensing model
    - i. University licensing models
    - ii. Industry licensing models
  - c. The basic spin-out model
    - i. From idea to business model and start-up strategy
    - ii. Business planning
    - iii. Financing

4. Agreements relevant for technology transfer and commercialization
  - a. The MTA (Material Transfer Agreement)
  - b. The NDA (Non Disclosure Agreement)
  - c. The license agreement
  - d. The joint venture agreement
  - e. The financing agreement (between founders and investors)
  - f. The shareholders' agreement - and the term sheet.
5. Additional topics:
  - a. Opportunity-driven creativity and opportunity recognition
  - b. From idea to business model/commercialization strategy
  - c. Risk management & -analysis tools
  - d. Stakeholders in a commercialization project and their roles & responsibilities.
  - e. IPR management & organization at universities and within industry
  - f. Intro to DTU's Technology Transfer Office
6. Cases

## Assignments

Each group will procure a commercialization draft plan, comprising – as relevant:

1. A description of the invention
2. A description of the demand for the invention, customer profiles and market analysis – one market (if several options)
3. A description of IPR – legal issues
4. A description of IPR – novelty search
5. A description of IPR – patent claims
6. A commercialization strategy
7. A license agreement if applicable
8. A description of the start-up strategy if applicable
9. A description of any financial issues if applicable

## Evaluation

Participants will receive a diploma to verify participation and conclusion of the course.

## Stakeholders

This course concept was developed in 2010 in a collaborative effort with input from: Dept. of Research and Innovation, DTU (AFI), LU Innovation, KU SCIENCE, Confederation of Danish Industrialists (DI), Plougmann & Vingtoft A/S, Hegner & Partners A/S, Novo Nordisk A/S, Novozymes A/S, Inspico A/S, TTO A/S, SEED Capital Denmark A/S, Danish Technological Institute, Danish Patent and Trademark Office, Chas. Hude A/S, Nokia Danmark A/S, Alex Farcet, Öresund Entrepreneurship Academy, DTU Management.

*Thank you to all for valuable contribution.*

