Teaching Portfolio
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Teaching and supervision
Think Business - ideation (Innovation and Creativity)

Descriptions

The goal is to train the student’s creative process, creativity techniques and basic prototyping skills. Following the creative process, the student become familiar with the use of these techniques, connecting technology and use, thus giving the
• Overall knowledge of creative process and creativity techniques.
• Basic knowledge of prototyping skills.

Information
Teaching period 01/02/2013 → …
Target group Bachelor
ECTS credits 5,0 ECTS
Subject Director Yu, F.
Managing organisational unit SDU Technology Entrepreneurship and Innovation

Think Business - Ideation (Semester Project 2 IB)

Descriptions

The students will work in groups of 3-5. By following the steps of methodized design the students will generate ideas for a new product based on a certain technology. The students will focus on the front end of the innovation process and analyze application areas, customer and user needs, market attractiveness and technical feasibility. The students are expected to have a proof on concept by the end of the semester. The knowledge, skills and competencies gained in the module will be explored further during the next semester where the proof of concept phase moves into the next stage of prototyping.

Description

Building on the skills and competencies in research methods achieved in DIB1IB, the students will during the module get familiar with qualitative methods, data collection and analysis. The semester project will thus focus on collecting and analysing data using a qualitative data collection method.

The main topics are:
• Technical feasibility studies
• Interplay between technology and use
• Customer need analysis
• Market research
• Product design and product development
Information
Teaching period 01/02/2013 → …
Target group Bachelor
ECTS credits 10 ECTS
Subject Director Yu, F., Stenger, M.
Managing organisational unit SDU Technology Entrepreneurship and Innovation

Visualize business - prototyping (Semester Project 3 IB)

Descriptions
In this semester project students will be involved in prototype development based on either their low fidelity prototype from last semester or a new alternative project idea. The purpose of the project is to prepare the students for the next step in the innovation process where the manufacturing setup is discussed.

Description
The students will work in groups of 4-6. The technical part of the project will focus on development of a product or the production process of a product. The students will also focus on creating an additional potential application of the technology. The main topics are:
Making a business case out of a new product development process
Navigating between technological opportunities and applications business opportunities
Specifying and building prototypes to demonstrate the new product development technology.

Information
Teaching period 01/09/2018 → …
Target group Bachelor
ECTS credits 10 ECTS
Subject Director Yu, F., Schweisfurth, T.
Managing organisational unit SDU Technology Entrepreneurship and Innovation

Innovation of Technology and Business

Descriptions
The course provides the students with an overview of the topic innovation management and technology innovation. Moreover, students will get introduced to theories on new product development discussing state of the art theories such as agile and hybrid development. Students will apply the theories on a real-life example proposed by an industrial company. The students and the company will work together during the semester which finally results in a presentation of the final outcome. The course is structured around several milestones resulting in a prototype as well as a business case representing the front end of the innovation process/the product development process.

The course contains the following elements:

- Definitions of innovation
- Types of innovation
- Sources and drivers of innovation
- Managing innovation and technology
- Technology strategy
- New product development
- Market research
- Prototyping
- Concept development and proof of concept
- Business Case development
- Scientific research methods.

**Description**

The in-company period is an elective course. The objective of the in-company period is to provide the student with knowledge and understanding of practical situations, methods, processes and engineering functions in a company in order for the student to relate these to the master of science in engineering degree as well as to a future employment as graduate engineer.

The student must work on a well-defined research or development project at the company. The project must be relevant to the student’s study programme and the chosen profile or specialisation on the master programme.

**Information**

- **Teaching period**: 01/09/2013 → ...
- **Target group**: Master
- **ECTS credits**: 15 ECTS
- **Subject Director**: Yu, F.
- **Managing organisational unit**: SDU Technology Entrepreneurship and Innovation
The Entrepreneurship Training is an elective part on the 3. Semester. Depending on the current stage of the business idea, the main activities are:
- Evaluate the opportunity and create a business case
- Investigate issues related to intellectual property rights
- Analyze, document and develop the business idea with focus on technology, user scenarios and business viability
- Reflect on and present the potential and challenges related to the entrepreneurial idea
- Develop an idea from the early stages into a venture design
- Work on a business case including aspects of market, technology, product, competitors, logistics/manufacturing, finance etc.

Description

Information
Teaching period 01/09/2014 → 31/01/2015
Target group Master
ECTS credits 15 ECTS
Subject Director Yu, F.
Managing organisational unit SDU Technology Entrepreneurship and Innovation

Master's Thesis

Descriptions
Since 2008, Fei Yu has been the main supervisor for more than 20 master projects. In the project, the students are
- is able to account for relevant engineering skills based on the highest level of international research within the subject area of the programme
- has a good understanding of - and be able to reflect on - relevant knowledge within the subject area of the programme
- is able to identify relevant scientific problems within the subject area of the programme.

Information
Teaching period 01/02/2008 → …
Target group Master
ECTS credits 30 ECTS
Subject Director Yu, F.
Managing organisational unit SDU Technology Entrepreneurship and Innovation

Bachelor Project

Descriptions
Since 2008, Fei Yu has been the main supervisor for more than 20 bachelor projects. In the project, the students are able to
- apply scientific methods and tools within the subject area of the study programme
- assess theoretical and practical problems and apply relevant analysis and problem-solving models
- communicate relevant professional and scientific problems and solutions either to professionals and non-professionals or to collaborators and users
- communicate in writing in a clear and understandable manner.

Information
Educational development experience and educational grants

2019  VR and AR technology blend for cross-location teaching in physical movement and health domain: Investigation with two innovation and entrepreneurship programmes’ students, E-learning project 2019, University of Southern Denmark, DKK 199.810
2018  IoT solutions for industrial applications, Fabrikant Mads Clausens Fond, DKK 95.000
2015  Prototyping toolbox, Danfoss educational foundation, DKK 58.000
2014 - 2019 Continuous co-developing and improving the Bachelor and Master in Engineering, Innovation and Business

Pedagogical education

2014  Lecturer Training Programme at the University of Southern Denmark
2014  Course of Student response systems - online
2014  Course of Using philosophy for children and Socratic questions to develop deeper thinking
2014  Course of Using de Bono's thinking hats to develop problem solving
2014  Course of Helping students understand assessment - using rubrics, peer review and exemplars