

## Teaching Portfolio

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## Teaching Philosophy

I have been teaching for many years. My teaching philosophy is Active Learning that I motivate my students to engage with materials, participate in the class, collaborate with each other, and apply a concept to solve real-world problems.

I use multiple methods in my classes and let the students get practise with the technologies. For example, besides the ordinary front teaching, I use videos, introduce case studies, design workshops, invite guest lecturers and arrange company visits. The various methods help students learning from different perspectives.

I like to set up well-defined challenging tasks, sometimes research-related projects, for the students, meanwhile I provide sufficient supports and guide them through the challenges. These challenging tasks really motivate the students seek for answers and solutions, i.e. they become active in learning. I am extremely proud of my students when they can explain complex concepts and apply the theory in practice.

I am enthusiastic in my classes and I really enjoy transferring my knowledge and experience to the students. Together with the students, we create a positive atmosphere both inside and outside the classroom.

Furthermore, I learn from the students as much as they learn from me. I seriously listen to them and improve my teaching based on their feedbacks.

## Teaching and supervision

### Think Business - ideation (Innovation and Creativity)

#### Descriptions

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

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 of 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 DIB11B, 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

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 the 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 new product development technology.

### Information

Period	01/09/2018 → ...
Target group	Bachelor
ECTS credits	10 ECTS
Subject Director	Yu, F.,
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 of innovation management and technology innovation. Moreover, students will get introduced to theories on new product development discussing the 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:

#### Description

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.

### Information

Period	01/09/2013 → 31/01/2020
Target group	Master
ECTS credits	10 ECTS
Subject Director	Yu, F., Stenger, M.
Managing organisational unit	SDU Technology Entrepreneurship and Innovation

## In-Company Project

### Descriptions

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 future employment as a 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.

#### Description

### Information

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

## Entrepreneurship Training

### Descriptions

Description	<p>The Entrepreneurship Training is an elective part on the 3. Semester. Depending on the current stage of the business idea, the main activities are:</p> <ul style="list-style-type: none"><li>Evaluate the opportunity and create a business case</li><li>Investigate issues related to intellectual property rights</li><li>Analyze, document and develop the business idea with a focus on technology, user scenarios and business viability</li><li>Reflect on and present the potential and challenges related to the entrepreneurial idea</li><li>Develop an idea from the early stages into a venture design</li><li>Work on a business case including aspects of the market, technology, product, competitors, logistics/manufacturing, finance etc.</li></ul>
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### Information

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

Description	<p>Since 2008, Fei Yu has been the main supervisor for more than 20 master projects. In the project, the students are</p> <ul style="list-style-type: none"><li>- is able to account for relevant engineering skills based on the highest level of international research within the subject area of the programme</li><li>- has a good understanding of - and be able to reflect on - relevant knowledge within the subject area of the programme</li><li>- is able to identify relevant scientific problems within the subject area of the programme.</li></ul>
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### Information

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

Description	<p>Since 2008, Fei Yu has been the main supervisor for more than 20 bachelor projects. In the project, the students are able to</p> <ul style="list-style-type: none"><li>- apply scientific methods and tools within the subject area of the study programme</li><li>- assess theoretical and practical problems and apply relevant analysis and problem-solving models</li><li>- communicate relevant professional and scientific problems and solutions either to professionals and non-professionals or to collaborators and users</li><li>- communicate in writing in a clear and understandable manner.</li></ul>
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### Information

Period	01/02/2008 → ...
Target group	Bachelor
ECTS credits	15 ECTS
Subject Director	Yu, F.
Managing organisational unit	SDU Technology Entrepreneurship and Innovation

### Smart Product Development

#### Descriptions

Description	This course focuses on the smart way of product development. It will create a holistic view on product development, and topics of product life cycle management will be covered. Students will learn and adopt several emerging technologies and tools in different projects during the course. What technologies and tools are available for product development, when should the technology be adopted in the process, how to adopt the tools, and what will be the impact to the whole product lifecycle, will be discussed in the class.
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### Information

Period	01/02/2020 → ...
Target group	Master
ECTS credits	10 ECTS
Subject Director	Yu, F., Ribeiro da Silva, E.
Managing organisational unit	Department of Technology and Innovation

### 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