

## Teaching Portfolio

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## Teaching Experience

I have been teaching at the university-level since 1998. I started as an assistant teacher at Mobile and Telerobotics - course in 1998, which was about developing small robots, as well as independent and semi-independent robots. During this role, I had very few responsibilities, other than overseeing weekly exercises.

After changing to the Institute of Electronics at Tampere University of Technology (TUT), at around 2000, I started to teach Embedded processor applications. This course focused on embedded systems and technologies enabling human-computer interfaces, i.e. computational hardware and low-level programming needed to interface with humans and electronic components. First, I was a teaching assistant, which in practice meant managing weekly exercises. During 2001 summer, I was given the responsibility to teach some lectures from the overall course. Soon after, I had the full responsibility of the lectures, weekly exercises and the coursework. During my tenure as the course responsible, I developed the Embedded processor applications in three ways. Firstly, I rewrote the course material and then did a thorough edit every year, based on the feedback. Secondly, I developed new coursework, an embedded processor application hardware, explorable through variable levels of parallel operation complexity. Thirdly, I developed a basics-course, to be taught before the Embedded processor applications, allowing more in-depth knowledge and complexity with embedded processors.

While at the Institute of Electronics, I was also an assistant teacher at the course Electromagnetic Compatibility, where I first oversaw the coursework and later designed the coursework as well. The course focused on reliable electronics, and the coursework required making either a switching power-supply or a fault-resistant motor-controller. To pass the course, the coursework had to fulfil a strict specification, and in general, was seen as an advanced and challenging course in electronics.

In 2007 I started to teach at the University of Arts and Design Helsinki, which transformed to Aalto University in 2010. For the first few years, I taught Interactive Prototyping with shared responsibility, and since 2012 I had full independent responsibility for the course, and its development. During 2013, I also started to teach Wearable technology and eTextiles, which was expanded to an international collaboration course, organised between Aalto, Universität der Künste Berlin and Textilhögskolan i Borås. The course was international until 2016 spring, and from 2016 summer it was Aalto exclusive. I taught both Interactive Prototyping and Wearable Technology and eTextiles until 2017, after which I moved to Denmark. In Aalto ARTS, my primary teaching experience has been with Interactive Prototyping, which has been documented and discussed through several publications, having evolved considerably throughout the years. The course was very hands-on, focusing on teaching practical interaction design skills to designers, i.e. how to conduct field-research to create a functional prototype. Having taught the IP-course for a decade, I have good experience in a wide variety of students from different backgrounds.

During my tenure in Aalto, I've also taught Design Sprints. They were intensive one-week concept-development courses with a substantial company collaboration. These sprints involve direct feedback from selected company experts and have resulted in several patent applications. The design sprints have been conducted primarily with Nokia Research. In addition to these experiences in Aalto, I've been an assisting lecturer, co-teacher and primary teacher in several other courses as well. However, those have been either one-off courses, such as for the Finnish Rail Authority (for improving level-crossing safety), or my role has been less relevant for the overall course. I have also pioneered TEKES-funded teaching in Finland, where the students explored how to develop novel implementable concepts during a high-technology development project (3D-surface printing, DIDEKO). In addition to larger courses, I've organised numerous lectures and presentations for other courses. For a full list, please see my website.

Since my transition to Syddansk Universitet (SDU), I've been teaching several courses. I've had independent responsibility for teaching Professional Apprenticeship, as well as overseeing In-Company projects. The Professional Apprenticeship focused on studio-based learning, being heavily hands-on course. The topic in 2018 was IoT and was of a similar topic during Spring 2019. 2020 apprenticeship was focusing on Things at a Distance, where distance-based interactions were explored.

During Spring 2019 I started teaching Collaborative Technologies at SDU together with Associate Professor Robb Mitchell, and have continued this since. Teaching collaboration at SDU has also been within Wearable Technologies, together with Associate Professor Danielle Wilde (starting during Spring 2018). This collaboration has also continued since. During Spring 2020, I have also taught Master i IT courses for high-school teachers and industrial students.

In addition to the courses at AALTO, TUT and SDU, I've taught smaller courses in, e.g. Estonia, and organised workshops around my teaching methods.

During my 22 years of teaching in academia, I've supervised numerous master-theses, and have currently supervision responsibilities of three PhD students.

## Course list, courses with major responsibility only, not counting single-projects

Notation: Years taught#Course, level.#My role in the course#Details#No. of students#Exam

2005-2007 #Basics of Embedded processor applications. BA, MA levels. Taught in Finnish.#Lecturer, weekly exercises, examiner. Full responsibility.#3 ECTS, lectures, weekly exercises and a programming project.#Approx 100.#Accepted project work and written exam, 3h. Graded 0-5.

2001-2002, 2003-2004, 2005-2008 #Embedded processor applications. MA and PhD levels. Taught in Finnish.#Lectures, weekly exercises, examiner (2003-2004), full responsibility (2005-2008). Weekly exercises (2001-2002). #5,5 ECTS, lectures, weekly exercises, embedded electronics design and programming project.#Approx 75.#Accepted project work and written exam, 3h. Graded 0-5.

2007-2017 #Interactive Prototyping, MA, acceptable to PhD levels with additional work. Taught in English.#Lectures, hands-on studio teaching, examiner, with changing co-teacher (2007-2011). Full responsibility (2012-2017).#10 ECTS, hands-on studio-based teaching.#12-15#Assessment on an ongoing basis, three presentations on a concept, prototype and evaluation. Graded 0-5.

2013-2017 #Wearable Technology and eTextiles, MA, acceptable to PhD levels with additional work. International 2014-2016. Taught in English.#Lectures, hands-on studio teaching, examiner. (2013-2017)#10 ECTS, hands-on studio-based teaching.#varied, typically around 12.#Assessment on an ongoing basis, a presentation and a prototype. Graded 0-5.

2018- #Professional Apprenticeship. Taught in English.#Hands-on studio teaching, examiner.#10 ECTS, hands-on studio-based teaching.#3-6#Essay, pass/fail.

2018 #Design Skills. MA level. Taught in English. #Hands-on studio teaching, examiner. Co-teacher with several others, however, principal teacher with Christina Fyhn Nielsen on the topic of Computational Thinking.#5 ECTS, hands-on studio-based teaching.#42#Functional prototype, pass/fail.

2019- #Collaborative Technologies. MA level. Taught in English.#Hands-on studio teaching. Examiner. Teaching with Robb Mitchell.#10 ECTS, Hands-on studio-based teaching.#~23#Danish 7-point grading scale, ongoing assessment and exam.