

Teaching portfolio

1. Teaching CV: A list of teaching and supervision tasks, including specification of academic fields, scope, level (bachelor, master, continuing education, PhD). Please state the teaching method used (e.g. lecture, class teaching, exercises, supervision, examination, coexamination, distance teaching, internet-based teaching and evaluation of teaching). Please also indicate the language of instruction.

Courses:

- 1) Master course on High Power Converters, Devices and EMI/EMC (2014-2018, annually), class teaching with exercises.
- 2) Master course on Reliability (Modern Reliability from a Practical Approach) (2015 - present, annually) , class teaching with exercises.
- 3) PhD course on Reliability of Power Electronic Systems (2013 - present, annually), 3-4 days short term intensive training, lectures, exercises, and lab sessions, course organizer and co-lecturer.
- 4) PhD course on Capacitors in Power Electronics Applications (2017 - present, annually or bi-annually), 2 days short term intensive training, lectures, exercises, and lab sessions, course organizer and co-lecturer.
- 5) PhD course on D-FMEA: Design Failure Mode and Failure Effect Analysis (2018 - present, annually), 4-5 days short term intensive training, lectures, and exercises, course organizer and co-lecturer.
- 6) PhD course on Power Electronics - from Fundamentals to Advanced Topics (2021 - present, annually), 4 days short term intensive training, lectures, exercises, and lab sessions, course organizer and co-lecturer.
- 7) PhD course on Artificial Intelligence & Advanced Data Analytics in Power Electronics (2022 - present, annually), 2 days short-term intensive training, lectures, and exercises, course organizer and co-lecturer.

Supervision

Supervised 25 PhD students, including 15 of them as the main supervisor; supervised 15+ master and bachelor group or individual projects.

2. Study/programme administration and management: Experience in programme management and coordination. A list of study administration tasks, e.g. study board membership, chair of study board, semester or course coordinator, accreditation tasks, etc. Experience in planning teaching activities. Experience in programme development. Participating in committees and commissions etc. on education issues.

In 2015, as a key initiator, introduced the multidisciplinary course on Modern Reliability from a Practical Approach to our energy technology master program, which becomes a compulsory course since then.

Coordinator of five industrial/PhD courses, each covering 2-5 days of lecturing, exercises, and lab sessions. These courses have trained more than 500 PhD students, and industrial engineers and scientists from Denmark and abroad.

3. Formal pedagogical training: A list of completed courses in university pedagogy, PBL courses, workshops, academic development projects, collegial guidance and supervision, etc. Written assessment from the course in university pedagogy for assistant professors. Participation in conferences on pedagogy and didactics. Please enclose any documentation of the above, such as course certificates, references, etc

1) Aalborg University Pedagogical Training (2013-2014)

Participation in the university pedagogical training for on teaching, supervision, and problem based learning and education model 2013-2014. The training consists of a number of workshops, teaching experiments, pedagogical supervisors observations in class, etc.

2) Other Training Courses

Management of Research and Development (a three day training course in 2013)

Supervisor Workshop - The PhD supervision process (2014)

PBL in Engineering and Science - Development of Supervisor Skills (2 two day training course in 2013)

4. Other qualifications: Conference contributions and attendance, contributions to debates, scientific articles on pedagogical issues etc. Peer supervision, editorials, mentoring experience or other types of competence development activities.

1) Editorial Board: Associate Editor, IEEE Transactions on Power Electronics (2015-), IEEE Journal of Emerging and Selected Topics in Power Electronics (2016-), IET Power Electronics (2017-2019), Springer Nature Scientific Report (2021 -); Senior Editor, Elsevier E-Prime (2021-); guest editorial board for 10+ special issues.

2) Organization of Scientific Conferences: General Chair, IEEE IFEC 2020, Denmark; Technical Program Co-chair, IEEE IFEEC 2019, Singapore; Technical Program Co-chair, IEEE SDEMPED 2021, Dallas, USA; Co-organizer of ECPE Capacitor Workshop 2021; Technical committees of 20+ conferences.

3) Professional Communities: Chair of IEEE Denmark Joint IEEE PELS/IAS/IE Chapter (2018-2020); Award Chair, IEEE Power Electronics Society Technical Committee TC6 (2017-2018)

4) Disseminations: 30+ conference tutorials, 100+ invited talks, including 15+ keynotes.

5. Pedagogical development and research: Development of new courses, teaching materials, teaching methods, examination types or other types of pedagogical development. Didactic and pedagogical research. Cooperation with external collaboration partners.

Six out of the seven courses were initiated by me and all the teaching materials for my lectures are designed by me.

6. References on your teaching skills from superiors or colleagues. Teaching evaluations and any teaching awards received.

As part of the university pedagogical training, I had the opportunities to invite my pedagogical mentors to observe and record my lectures. It is a very effective way to get feedback from professionals and experienced professors. For example, after a class observation on 14 April 2014, my pedagogical mentor Prof. Kathrin Otrell-Cass provided the following evaluation:

“Your class worked very well – I was quite interested myself in what you had to tell. I noticed your students were very observant, paid attention, responded to your questions, so overall it was a good learning atmosphere.”

“A fundamental aspect of the nature of science and the nature of technology is that they represent particular areas that differ from other modes of knowing. I really liked how you made connections throughout your presentation to the way professionals in your field of study work. You used timelines, referred to your own experiences working with ABB, you drew attention by saying things like ‘this is what you have to do when you will be working in this field’, and you included the PhD student to present. All these ways are important for students to feel as part of a particular type of community, but also that this community thinks and works in particular ways and that they change their practices over time.”

7. Personal reflections and initiatives: Here you may state any personal deliberations as regards teaching and supervision, any wishes and plans for further pedagogical development, plans for following up on student feedback/evaluations, etc. Personal reflections on your own pedagogical practice, including objectives, methods and implementation. This should include an analysis and a reasoned description of your pedagogical activities in relation to your pedagogical understanding and student learning. Thoughts on the teaching method at Aalborg University (which is largely based on group-organised project work and problem-based learning)

Statement of Teaching Philosophy

As a student having attended many excellent courses and a teacher having lectured different level of classes, I believe that the effective teaching is to facilitate the active learning process of students and stimulate their critical thinking. To achieve this goal, the following five aspects are addressed according to my experience and personal view about teaching.

1) Understand the student diversities

Besides being aware of the diversification of students with different cultural and educational backgrounds, it is also vital to know the way students think and their existing knowledge. Along the years, I have realized the importance to know the specific needs of students and to find ways of stimulating them to think and understand new things from their own perspective and based on their experiences.

2) Deliver well-prepared and specific materials to students

In my view, learning is a process to discover and appreciate the simplicity of knowledge from its sophisticated phenomenon, especially in the study of engineering. Well preparations allow me to have a better understanding of the essence of concepts, principles, methodologies, problems and to explain them to students in a simple way.

3) Student-centered teaching and learning

In my previous teaching classes I was trying to be a facilitator rather than a “traditional teacher” who disseminates information only. With over 20 years of experience as a student in primary schools, middle schools and universities, I benefit a lot from active engagement in the learning process. Therefore, in my class, I encouraged students to raise questions, to analyze and summarize information from their own perspectives, and also provided them opportunities to conduct group discussions, team collaborations and presentations.

4) Overall personal development

Besides the teaching materials and teaching methodologies, the overall attitude and personality are also very important to establish high quality of teaching. It is vital to create an interesting and friendly atmosphere for teaching and learning, nourishing a learning culture. I respect each student with my full patience and sense of responsibility. I claim myself to be a very devoted person and I am easily approachable. I enjoy teaching and learning and I would like to spark the flame of excitement and enthusiasm in the mind of students as well.

5) Continuous evaluation and reflection

The teaching process itself is the best way to learn and to improve. I value the chance to discuss with students during and after the class sessions for any kind of feedback. They are very useful to improve my teaching materials and explore effective teaching methods. Moreover, evaluation and reflection are not only for teachers, but also for the students. It is also very important to help students have regular evaluation and reflection on their own learning activities and projects.

8. Any other information or comments.

No