

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. Cybersecurity for Microgrids, Industrial/PhD course, Aalborg University, Aalborg, Denmark (2021-Present)
2. Power Electronics - From Fundamentals to Advanced Topics, Industrial/PhD course, Aalborg University, Aalborg, Denmark (2021-Present)
3. Realidssystemer og Programmeringssprog, Bachelors course (Assistant Teacher), 2022.
4. Introduction to Reliability, Masters course (Assistant Teacher), 2023.

Co-supervised PhD projects:

1. STABILITY AND RELIABILITY VALIDATION OF A MICROGRID SYSTEM, Yubo Song (2020-Present)
2. Dynamic Stabilization of DC Microgrids Based on Model Predictive Control of Point-of-Load Converters, Yuan Li (2021-Present)
3. Condition Monitoring for Smart Power Electronic Converter Systems for Distributed Generation, Shuyu Ou (2022-2025)

Supervised Masters projects

1. Atomic Parallelism of Low-Inertia Power Systems, Kristian Skafte Jensen (2022)
2. Synchronization Stability of Inverter Based Resources during Faults on Low Voltage Grids, Kaustubh Bhatnagar, Master Thesis, 2022.
3. Robust Converter Control with microgrid-support functions during abnormal conditions, Kaustubh Bhatnagar, Master Project, 2021.
3. Anomaly Management in Power Electronics Based Power Systems, Mohit Nair, Adam Pramanah Fitrah, Kaustubh Bhatnagar, 2021.

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.

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

PhD Supervision Course (2022)

This course involved sharing different experiences and cases on optimizing the performance of PhD students considering a healthy and stress-free mentorship environment.

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.

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.

Cybersecurity for Microgrids PhD course

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

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)

I believe the key “ingredients” to successful teaching is the ability to communicate and inspire students. However, course materials in electrical engineering are often abstract in nature. They are the result of the excessive use of mathematical equations to explain complex theories, which is alienating to younger generation of students.

I strongly believe field trips for power engineering could be an asset to the understanding as industrial practices are often overviewed during graduate studies. However, these trips could allow them to experience the next generation control room technologies and interact with the engineers to have a technical know-how of contingency solutions and redundancy measures. It can become exciting for the students after knowing what they learnt could make a difference to society rather than fulfilling a requirement for their academic degrees.

Apart from giving lectures, supervision of M.Sc. students is also my responsibility. I always prefer frequent discussions at the start to ensure students understand the scope of their research projects. The initial guidance will be gradually relaxed to allow opportunities for students to develop independent research abilities. Meanwhile, a positive working environment is created between students through words of encouragements and advices. My vision is to organically grow a strong research team that will always uphold the prestige of the academic institution.

8. Any other information or comments.