

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.

MSc thesis supervision: Madeleine Durieux Rostrup-Nielsen: "Time Series Analysis of Oscillatory Loads on a Circular Cylinder", in collaboration with Erik Damgaard Christensen, Department of Mechanical Engineering, Technical University of Denmark. Method: Supervision and examination regarding time-series analysis and signal processing (English). 2020.

MSc teaching: "Applied Statistics and Probability Theory", Risk and Safety Management, Aalborg University, Esbjerg, Denmark. Responsibilities: Course Lecturer for 25% of the course. Shared responsibilities in course planning, setting up curriculum, preparing lectures, exercises, delivering lectures, and evaluation of reports and written exams. Method: lecture, physical classroom teaching, exercises, examination, internet-based teaching (English). 2019-2020.

MSc teaching: "Systems Engineering", Risk and Safety Management, Aalborg University, Esbjerg, Denmark. Responsibilities: Teaching assistant with shared responsibilities in preparing exercises, and evaluation of reports and oral exams. Method: Exercises, project supervision, examination, internet-based teaching (English). 2017-2018.

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.

Our group took over the MSc program on Risk and Safety Management, Aalborg University, Esbjerg, Denmark in 2019. At that point, I was asked by the program responsible Michael H. Faber to take over part of the teaching in the MSc course "Applied Statistics and Probability Theory" and further develop the curriculum by introducing computer programming (using the programming language R). This has led to the development of an interactive teaching, exercise, and examination environment (using Jupyter notebooks).

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

Type your answer here...

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.

Selected talks:

- (1) "Information-consistent systems modeling and analysis - with applications in offshore engineering", PhD defense, Hybrid event (June 25, 2021).
- (2) "Context-specific model selection - A principal example", Joint Committee on Structural Safety (JCSS), Virtual event (June 2, 2021).
- (3) "JCSS reliability toolbox - Jupyter notebook format", Joint Committee on Structural Safety (JCSS), Virtual event (June 2, 2021).
- (4) "On normalized fatigue growth modeling", the ASME 2020 39th International Conference on Ocean, Offshore and Arctic Engineering (OMAEO2020), Virtual event (2020).
- (5) "Big Data Techniques for Probabilistic System Representations", Ramboll, Esbjerg, Denmark (2020).
- (6) "Environmental loads and big data", Danish Hydrocarbon Research and Technology Centre (DHRTC), Internal workshop, Lyngby, Denmark (2020).
- (7) "Big data techniques for detecting latent patterns in failure mode realizations", TOTAL E&P, Esbjerg, Denmark (2019).
- (8) "Systems modeling using big data analysis techniques and evidence", the IEEE 2019 4th International Conference on System Reliability and Safety (ICSR2019), Rome, Italy (2019).

- (9) "A Decision Analytical Framework for Systems Modeling", the ASCE Engineering Mechanics Institute Conference (EMI2019), Caltech, Pasadena, USA (2019).
- (10) "Bayesian Probabilistic Systems Modeling Strategies", The Joint Research Centre in Ispra, Italy (2019).
- (11) "Bayesian networks for clustering and visualization of failure mode realizations", TOTAL E&P, Esbjerg, Denmark (2019).
- (12) "Load environment modeling", Danish Hydraulic Institute (DHI), Hørsholm, Denmark (2018).

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.

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

Type your answer here...

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 would like to develop the aforementioned interactive course environment, e.i., for the MSc course "Applied Statistics and Probability Theory", even further to accommodate more material from the curriculum, and I would like to engage current and past student to provide feed-back on the course environment. Furthermore, I would like to attend targeted pedagogical course to improve my teaching, examination, and presentation skills. Finally, I think the future lies in pre-recording of lectures, which enables the students to follow the lectures in their individual pace. As the lecturers are not expected to be present while the student watches the lectures, this also frees time for more elaborate questioning and exercise sessions, where the lecturers are expected to be present, which supports problem-based learning.

8. Any other information or comments.

Type your answer here...