

Undervisningsportfolio

1. Undervisnings-CV: Oversigt over undervisnings- og vejledningsopgaver med angivelse af fagområder, omfang, undervisningsniveau (bachelor, kandidat, efter-/videreuddannelse, ph.d.). Type af undervisningsform angives, f.eks. forelæsning, holdundervisning, øvelse, vejledning, eksamination, censur, fjernundervisning, internetbaseret undervisning og evaluering af undervisning. Undervisningssprog angives.

I have lectured and supervised in the topics of hydrodynamics and structural engineering under primarily the Civil Engineering program at AAU at both BSc and MSc levels. I have developed new lectures in Fluid Mechanics and Three-Dimensional Beam Theory. My teaching activities are outlined below.

Lecturing:

- "Fluid Mechanics", 1st semester course, MSc, Civil Engineering and Indoor Environmental and Energy Engineering (joint course), AAU (2025). Web-based teaching material: slides.jacobandersen.dk
- "Continuum Mechanics, Three-Dimensional Beam Theory, and Stability", 5th semester course, BSc, Civil Engineering, AAU (2024), course leader.
- "Renewable Energy Structures: Wind Turbines and Wave Energy Devices", 3rd semester course, MSc, Civil Engineering, AAU (annually since 2022).
- "OpenFOAM Days", voluntary student activity for BSc and MSc engineering students, AAU (2022).

Supervision:

- "Analysis of Rigid and Flexible Sails in an Oscillating Wave Surge Converter", long MSc thesis (45 ECTS), Civil Engineering, AAU (2024-2025).
- "High Fidelity Numerical Modelling of a Partly Submerged Sphere", long MSc thesis (45 ECTS), Civil Engineering, AAU (2022-2023).
- "Design and Foundation of a 3D Steel Structure", 5th semester project, BSc, Civil Engineering, AAU (2023).
- "Effects of Permeability of Rubble Mound Breakwaters on Overtopping Discharge", 9th semester project, MSc, Civil Engineering, AAU (2022).
- 1st and/or 2nd semester projects, BSc, Civil Engineering, AAU (2020, 2021, 2023).

2. Administration og ledelse af uddannelse: Erfaring med uddannelsesledelse og –koordinering. Oversigt over studieadministrative opgaver, eksempelvis medlem af studienævn, studieleder, semesterkoordinator, fagkoordinator, akkreditering m.v. Erfaringer med planlægning af uddannelsesafvikling. Erfaring med udvikling af uddannelser. Deltagelse i udvalg, kommissioner m.m. vedr. uddannelse.

Skriv dit svar her...

3. Formel pædagogisk uddannelse: Oversigt over gennemførte universitetspædagogiske kursusforløb, PBL-kurser, workshops, udviklingsprojekter, kollegial supervision o.l. Udtalelse fra universitetspædagogikum. Deltagelse i konferencer om pædagogik og didaktik. Dokumentation i form af kursusbeviser, udtalelser m.m. vedlægges.

University Pedagogy Program 2024 with department supervisor Thomas Lykke Andersen (AAU BUILD) and pedagogical supervisor Jette Egelund Holgaard (AAU Learning Lab).

Statement from supervisors:

"We have supervised Jacob Andersen over the year (2024) that he participated in the university pedagogy program and observed a clear progression in his pedagogical development, most remarkably in the redesign of course modules.

The observations of lectures showed that Jacob presents himself as a well-prepared, calm and engaging lecturer. He has a special strength in communicating complex knowledge constructs in a stepwise fashion, which improves students' understanding. Jacob completely redesigned two lecture models to accommodate remote students in a blended learning environment e.g. by extensive development of teaching materials. At the same time, Jacob included activities to reinforce active learning and student motivation.

In a very well-prepared project report, Jacob has contextualized, documented, analyzed and discussed his experimentation to improve student learning in blended lecture formats. The experiment is contextualized by use of blended learning theory as well as reference to active learning and motivation theory. The redesign of lectures is properly documented, and conclusions are based on appropriate data. In the dataset, students' evaluations and performance from previous years is used to argue for the improvements and as a baseline compared to the results of the evaluation of the

pedagogical experiment. The results document highly successful interventions, not the least in terms of bridging the gap between local and remote students. In the ongoing dialogue, Jacob Andersen has been highly engaged in a professional learning community of four Assistant Professors, where he has carried out observations of peers and provided qualified pedagogically feedback. Furthermore, Jacob Andersen has showed his ability to reflect on his own teaching, act on the inputs and provide pedagogical arguments for further developments."

4. Andre kvalifikationer: Bidrag til konferencer, debatindlæg, videnskabelige artikler om pædagogiske emner m.v. Kollegasupervision, redaktørarbejde, erfaring som mentor og anden kompetenceudvikling.

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5. Pædagogisk udvikling og forskning: Udvikling af nye kurser, undervisningsmateriale, undervisnings- og eksamensformer eller andet udviklingsarbejde. Didaktisk og pædagogisk forskning. Samarbejde med eksterne samarbejdspartnere.

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6. Udtalelser om undervisningskompetencer fra foresatte og kolleger. Undervisningsevalueringer og eventuelle udmærkelser for undervisningsvaretagelse.

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7. Evt. personlige refleksioner og initiativer: Personlige overvejelser knyttet til undervisning og vejledning, ønsker til og planer for pædagogisk videreudvikling, planer for opfølgning på undervisningsevalueringer m.v. Refleksioner over eget pædagogiske arbejde, dets målsætninger, metoder og gennemførelse. I refleksionen analyseres og motiveres dine pædagogiske aktiviteter i forhold til din pædagogiske forståelse og de studerendes læring. Tanker om undervisningsformen på Aalborg Universitet, der har et stort indhold af gruppeorganiseret projektarbejde og problembaseret læring (PBL).

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8. Andet.

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