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.

I have been teaching at universities since 2016, initially as a Graduate Student Instructor (GSI), also known as Teaching Assistant (TA), during my doctoral studies, and then as an Assistant Professor. Therefore, my teaching activities have a pre-AAU period and the AAU period.

AAU period (Fall 2021 - ongoing)

Fall 2022 (ongoing semester)

In this on-going semester, my teaching activities revolve around the following courses:

• BSc05 ARK/URB Den Integrerede Design-Ingeniør V: By og bygningers bæredygtighedscertificering, livscyklus og værdisættelse
Bachelor in ARK/URB.
Face-to-face teaching.
Co-taught with two professors from BUILD.
Examiner.
The course introduces architectural and urban design students to sustainable certification of buildings and urban districts, life cycle assessment (LCA), and life cycle cost (LCC). The teaching methods are mixed and impart lectures, in-class exercises, individuals and group supervision of the students' mini-project. The lectures were offered by the class's instructors and invited lecturers from the industry/practice. The mini-project is the central evaluation piece of this project, where the students are required to articulate all the knowledge learned during lectures and in-class exercises. This year the class had 60 students.

• MSc03 ARC Research, Practice or Development in Architectural Design-engineering
Master of Science in Architecture.
Remote teaching.
Will act as an examiner.
In this course, I act as the academic supervisor of students undergoing an external internship in different design firms. The students need to develop a logbook of activities, setting learning goals for their internship along with their practice supervisor (i.e., their supervisor in the company where they are taking their internship). In the end, the students develop a report where they summarize and reflect upon their experience. In their reflection, the students need to articulate design practice with theory. My supervision consists of a weekly or bi-weekly one-to-one meeting with the students to discuss the link between their practical experience and the related overarching architectural theory topics. The supervision is done virtually using digital tools such as Zoom or MS Teams. To support the (bi)weekly discussion, students are asked to develop a graphical representation of their experiences by using sequential diagrams, illustrations, and collages and post it to a Miro board. This year I am supervising 6 students in their internship semester.

• MSc01 ARC Sustainable-Tectonic Architecture: Integrated Social Sustainability and Climate Impact
Master of Science in Architecture.
Face-to-face teaching.
Will act as both an examiner and an internal examiner.
In this project course, I will supervise 2 groups of 5 students each. The teaching activities involve supervision, short lectures on particular topics (e.g., daylight and architecture), and small hands-on workshops devised explicitly for the 2 groups and their project needs.
Spring 2022

• BSc06 ARK/URB Udvidet arkitektonisk projektering med strukturelt design og FE-simuleringer
Bachelor course in ARK/URB.
Face-to-face and remote teaching.
Co-taught with and invited lecturer.
Examiner.
The course aims to enable students to carry out architectural designs focusing on structural analysis using state-of-the-art structural analysis and digital simulation tools. The teaching methods include lectures, workshops on structural simulation software, and supervision. The students work in groups and need to articulate all the knowledge acquired in a mini-project that consists of designing and analyzing a medium-sized outdoor structure (e.g., a pavilion).
Class time is divided into three parts. The first part consists of a lecture about the tectonic expression of different materials and structural/building technologies. In the second part, the students have a hands-on workshop on how to support their

design processes with structural simulation tools. Finally, the third part consists of direct supervision of the mini-projects.

• MSc04 Architectural Design – Master Thesis
Master of Science in Architecture.
Face-to-face and remote teaching.
Examiner.
I was responsible for coordinating the master thesis semester and supervising 7 master thesis students (2 groups of 3 students, and one individual). Six students graduated, and one is expected to graduate in October 2022. The teaching activities included group supervision and custom-tailored lectures and workshops for each group.

• MSc02 Architecture Elective B: Acoustics and materiality
Master of Science in Architecture.
Internal examiner.

Fall 2021

• MSc03 ARC Research, Practice or Development in Architectural Design-engineering
Master of Science in Architecture.
Remote teaching.
Examiner.
The course aim and activities are described above (see Fall 2022). During this semester, I was responsible for supervising 4 students in their internship semester.

• MSc01 ARC Sustainable-Tectonic Architecture: Integrated Social Sustainability and Climate Impact
Master of Science in Architecture.
Internal examiner in four group projects.

Pre-AAU period (Fall 2016 to 2021)

The following provides a summary of my teaching activities before I joined the Department of Architecture, Design and Media Technology at Aalborg University.

2020 to 2021
For four semesters, I was an assistant professor in the architecture program of Kent State University. There, I taught four architectural studio classes and, for four times, a comprehensive and foundation class on building systems, technology, and the environment, Environmental Technology II (ETII). In the studio courses, I was responsible for teaching 15 students, and in ET II, from 30 to 40 students on average. In the architectural studio classes, most of the teaching consisted of individual and group supervision. However, I would regularly prepare small lectures on particular topics and small workshops on the use of building simulation software that included hands-on exercises. ET II consisted of a traditional lecture class format (i.e., direct knowledge transfer). Nevertheless, I designed several homework exercises that could easily be framed in the AAU's problem-based learning method. I also provided supervision for homework during my office hours. Finally, ET II also imparted a final written exam, primarily based on multiple-choice questions.

2019
In the fall of 2019, I designed and taught a course at the University of California at Berkeley (UC Berkeley) as a graduate student instructor (GSI), acting as a lecturer. ARCH 102A – Environmental Performance and Architecture course introduced the final bachelor project course in Architecture. The focus was on transferring knowledge from building science to design processes. The course mixed different teaching methods, including lectures, in-class exercises, and supervision on the students' final bachelor project, a research prospectus for their final research paper that would develop in spring 2020 (already without my guidance as I would move to Kent State University).

2016 - 2019
During this period, I was several times a GSI in two UC Berkeley courses:

• ARCH 240 – Advanced of Energy and Environment
Master of Architecture (M.Arch)
Instructor of record: Luisa Caldas
Teaching assistant responsibilities included lab section instruction, assist in developing the course syllabus, lectures, and lab tutorials, occasionally deliver lectures, lab office hours, develop assignments, and grading.

• ARCH 149 – Net Zero Energy Buildings
Bachelor in Architecture (B.Arch)
Instructor of record: Brendon Levitt
Teaching assistant responsibilities included lecture preparation, lab office hours, develop course tutorials, and assignments and grading.

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.

Fall 2022
Nominated to the Study Board of Architecture and Design.

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

Spring 2022 – ongoing:
• University Pedagogy for Assistant Professors at Aalborg University Course (Universtetspædagogikum, UP-AAL)
All the compulsory course modules of UP-AAL course are completed, which include the following:

• Module 1. Teaching at a PBL University
• Module 2. Planning and Implementation of Group Instruction
• Module 3. The Use of IT and Media for Learning and Teaching
• Module 4. The PBL Group – Collaboration, Process and Supervision
• Module 5. Planning, Development and Quality Assurance of Study Programmes

The second part of the UP-AAL courses is undergoing in the Fall semester of 2022. The expected date to delivery the final report is December 21st and the UP-AAL course is expected to be completed in Fall 2022.

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.

None to the moment.

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.

2022
As the coordinator of BSc05, I have retrofitted the course to be more integrated with the main project course module while keeping the same content and learning goals and objectives.
As the main responsible for BSc06, I have strived to balance technical content with theoretical/design content. The goal was to demonstrate to students that both are interdependent and that decisions supported by structural analysis have architectural consequences and vice-versa. This ambition was paramount in structuring class time into a sequence of theoretic/example-based content, workshops on structural performance analysis techniques and tools, and mini-project work in-class. To support the connection between theory and practice I also introduced reading responses of selected primary literature that would serve as the basis for in-class discussion.
To fulfill the pedagogical goals of BSc05 and BSc06 several on-line tutorials were developed in the form of videos. Additionally, several external lectures, particularly expert practitioners, were invited to give lectures in BSc05.

2021-on-going
I continue to collaborate with Professor Reid Coffman from Kent State University (KSU) in supervising a KSU student in the MSc in Architecture program. Custom-based materials have been developed to support the students' master thesis endeavors. Such material includes small computer programs for building energy prediction and visualization and hands-on remote sessions to develop and use such tools. The goal is to prepare the student to be proficient in both developing and disseminating his research.

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

2018
Outstanding Graduate Student Instructor Award, UC Berkeley.

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)

My teaching focus and methods overlap with my research interests in using digital tools to support the design of high-performance buildings and urban environments. To that end, I use diverse teaching methods always centered on a design task. Such teaching methods include lectures, reading responses, in-class discussions and exercises, workshops on digital simulation tools and visualization and interpretation of simulation data, and synchronous and asynchronous (on-line) tutorials. The main idea is to use a problem or project as the main driver for knowledge acquisition and application. Since design is often a collaborative effort, the students mostly group in groups while tackling the design problem, project, or task.

All of this aligns well with the project-based or problem-based learning AAU model (PBL model). In fact, one of the main reasons that sparked my interest in collaborating and working in AAU was the PBL model and the fact that I would be trained on it. Thus, I strive to adjust and refine my teaching methods to fit better AAU's PBL model, including teaching methods that usually are seldom associated with PBL, such as traditional lectures, reading responses, and in-class discussion. For example, I seek to prepare lectures that are directly related to the design problem's topics and use lecture time to inspire students by using exemplary case studies. Furthermore, reading responses and in-class discussion is tied together. Hence, by performing a reading response, the students are better prepared to discuss among themselves the lecture topic and the primary literature that supports it. In that way, lecture time is not devoted to vertical knowledge transmission but to a bottom-up building of knowledge guided by the instructor in the fashion of a flipped classroom. To that end, I aim to create a natural and relaxed atmosphere where all can participate. In addition, I use digital collaboration platforms, such as slack, to harvest the participation of more introverted students in this classroom setting. With such media, students always have a space to participate, anonymously or not, asynchronously or synchronously.

I also observed that making the design problem the class pivot also promotes creativity among students and engages the instructor as also a part involved in the learning process. It is incredible how often an instructor learns from the students in a PBL setting.

Looking ahead, I expect to connect more research and teaching either by participating in the development of new pedagogical content, directly researching pedagogical methods for design teaching, or using the classroom as a laboratory to conduct research and, therefore, supporting students in building their research agenda/interests and for disseminating their own work. I also expect to contribute to improving the architecture and urban design program through my study board activity. In that regard, my plan is to help improve a continuous pedagogical thread of topics and methods across the ARK/URB bachelor's and master's program.

8. Any other information or comments.
