

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.

TEACHING

1. The basics and statistics of precipitation. Understand the hydrological cycle, precipitation formation, rainfall measurements, rainfall statistics, IDF-curves. Master, class teaching in English.
2. Fundamental design methods for stormwater pipes. Able to use the rational method in pipe designing and dimensioning. Master, class teaching in English.
3. Urban hydrology and drainage. Understand fundamental design methods for wet and dry stormwater retention ponds. Master, class teaching in English.
4. Stormwater pollution and impacts on the receiving environment. Master. Class teaching in English.
5. Detection and Quantification of Microplastic: sampling of microplastics in the environment. PhD, lecture.

SUPERVISION

1. Microplastic: A result of human activities - indoor exposure in an apartment. Bachelor graduate project. Supervision and examination.
2. Linking the unseen: Sustainable urban transformation -a case study at Struer. Master semester project. Technical supervision, co-examination.
3. Hydrology analysis and stormwater management strategy at Struer. Master semester project. Technical supervision, co-examination.
4. Microplastics in Europe's freshwater ecosystems: from sources to solutions. EU project. Cosupervision of a PhD.
5. Efficient extraction and identification of microplastics from marine sediments. Joint PhD student. Supervisor.

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.

No administration and management of study program involved yet.

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

Completed university pedagogy courses:

1. Teaching at a PBL university.
2. Planning and implementation of group instruction.
3. The use of IT and media for learning and teaching.
4. The PBL group - collaboration, process and supervision.
5. Planning, development and quality assurance of study programmes.
6. Electives.

The final learning report is under process, as it needs one more observation on my supervision. The report is expected to finish in August 2021.

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.

I have received peer supervision on observing my physical classroom teachings, also observed several other assistant professors' classroom teaching and provided feedback.

I have also been teaching on a PhD course, where the teaching experiences and opinions were shared and discussed with other lecturers.

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.

The teaching materials I use are built upon the materials used for the same course but taught by my colleague. The examination type is mainly oral examination. It often invites examiners from outside companies, who work in the relevant field.

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

I have received feedbacks from my pedagogical supervisor and department supervisor, based on the observation of my class teaching. Here are some comments:

Fan Liu appears well-prepared, well-structured and confident, however also having challenges when clarifying/explaining issues for (apparently) confused and uncertain students.

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)

The objective of my own pedagogical practice is to motivate students to learn solid and hard-core engineering knowledge and be able to apply it to their projects. I believe this is one of the most critical aspects counted in good teaching and learning, particularly for students who have zero background on this subject but need to gain professional knowledge and implement it into their projects in a rather short timeframe.

The reason for selecting this as the objective is that my first year teaching was to teach urban hydrology to 7 semester students from Architecture and Urban Planning, The students had zero background in this subject. Yet, the knowledge on this domain stands as the core technical part of their projects. In other words, a successful semester project determines the learning curve has to be steep.

It was a challenge for not only the students but also for me. The approach was to start with something familiar and interesting to the students, ask "why" and "how" from there, then lead the students to dive into the questions.

In practice, I started the lecture by showing flooded cities (since the course is about urban hydrology, namely water in urban). As urban planners, the students definitely don't want to design a city like this, so immediately, they stood at the same point as me: water is important in urban planning, and we should manage it in a good way. Then came the question, "why cities end up been flooded?" "How to solve this?".

The opposite consequence proved to be a good way to motivate the students for the coming challenges. I sent signals that the following lectures could be uneasy but is made to serve the purpose of a good city design. This signal seemed to work well for the students to prepare themselves mentally for all the equations and analysis. To help them gain confidence along the way, I started with simple calculations, just to illustrate that "equations are not that scary". With that confidence, they were more easily to be motivated for more complex content in the course. A good outcome was reflected in their project work, where most of the students applied the course content to their city design by clearly expressing the fundamental knowledge.

I believe that motivation and interest are the key elements for good teaching and learning. As teachers, we should start with motivating the students first, and the gain can be much more for both sides.

8. Any other information or comments.

Type your answer here...