Teaching portfolio

1. Teaching CV: A list of any lecturing and supervision tasks, including specification of academic fields, scope, level (bachelor, master, continuing education, PhD) as well as any external examiner tasks.

Course activities:
MSc course: Flexible Manufacturing, 5 ECTS, Aalborg University. Participants from semester MSc in Operations and Supply Chain Management and 2nd semester MSc in Technology (Production). Teaching language English. Teaching from 2015 to present.

BSc course: Selected Topics in Intelligent Manufacturing, 5 ECTS, Aalborg University. Participants from 6th semester BSc in Manufacturing and Operations Engineering. Teaching language English. Teaching from 2018 to present.

MSc course: Manufacturing Processes, 5 ECTS, Aalborg University. Participants from 2nd semester MSc in Sports Technology. Teaching language English. Teaching from 2015 to present.

MSc course: Introduction to Production, 5 ECTS, Aalborg University. Participants from 1st semester MSc in Technology (Production). Teaching language Danish. Teaching from 2016 to present.

External lectures and courses:
MSc course: Production Development, 7.5 ECTS, Jönköping University, Department of Industrial Engineering and Management. Guest lecture given in English on topic Changeable and Reconfigurable manufacturing, 2017.

PhD course: Product Platforms, 7.5 ECTS, Jönköping University, Department of Industrial Engineering and Management. Lecture given in English on topic Production Platforms, 2018.

PhD course: Production Development, 7.5 ECTS, Jönköping University, Department of Industrial Engineering and Management. Lecture given in English on topic Changeable Production, 2021.

Industry (CEE) course (equivalent to MSc level): Changeable and Reconfigurable Production Systems, equivalent to 5 ECTS, Jönköping University, Department of Industrial Engineering and Management. Course coordination, course development, and lecturing. From 2018 to present.

Supervision activities incl. project examiner experience:
MSc Thesis, 30 ECTS. Students from 4th semester MSc in Operations and Supply Chain Management. Supervision of 4 students in spring 2019.

MSc projects: Global Manufacturing, 30 ECTS. Students from 3rd semester MSc in Operations and Supply Chain Management. Supervision of 1 student in fall 2014, 1 student in fall 2015, and 3 students in fall 2019. Supervision conducted in Danish and English.

MSc projects: Operations Management, 15 ECTS. Students from 1st semester MSc in Operations and Supply chain Management. Supervision of 2 groups in fall 2014, 2 groups in fall 2017, 2 groups in fall 2018, and 2 groups in fall 2019. Supervision conducted in English and Danish.

MSc Thesis, 30 ECTS. Students from 4th semester MSc in Technology (Production). Supervision of 1 student in fall 2017, 1 student in fall 2018, and 2 students in fall 2019. Supervision conducted in Danish.

MSc projects: Innovation and Business Development of Industrial Enterprises, 15 ECTS. Students from 3rd semester MSc in Technology (Production). Supervision of 1 student group in spring 2018. Supervision conducted in Danish.

MSc projects: Design and Management of Industrial Enterprises, 15 ECTS. Students from 2nd semester MSc in Technology (Production). Supervision of 1 student group in fall 2018. Supervision conducted in Danish.

BSc projects: Integrated distribution and supply systems, 15 ECTS. Students from 5th semester BSc in Global Business Engineering. Supervision of 1 student group in fall 2015 and 1 group in fall 2017. Supervision conducted in Danish.

BSc projects: Analysis and Re-design of an Operating System, 15 ECTS. Students from 4th semester BSc in Global Business Engineering. Supervision of 2 student groups in spring 2018 and 2 groups in spring 2019. Supervision conducted in Danish.

BSc projects: Description, Analysis, Solution Development, and Assessment of a Business Systems, 15 ECTS. Students from 2nd semester BSc in Global Business Engineering. Supervision of 2 student groups in spring 2016. Supervision conducted in Danish and English.

BSc projects: Reality and Models, 10 ECTS. Students from 1st semester BSc in Global Business Engineering. Supervision of 2 student groups in fall 2015. Supervision conducted in Danish and English.

BSc projects: Introduction to Report Writing, 5 ECTS. Students from 1st semester BSc in Global Business Engineering. Supervision of 2 student groups in fall 2015. Supervision conducted in Danish and English.

Some additional examiner activities:
Experience as internal examiner in PBL projects in both English and Danish, primarily similar projects as outlined under supervision activities.

Experience with written exams conducted as Moodle tests in courses.

Experience as examiner in oral course exams and course re-exams.

2. Study administration: A list of any study administration tasks, e.g. study board membership, head of studies or semester or course coordinator, accreditation, etc.

Member of Study Board of Production, Department of Materials and Production, Aalborg University (From 2020 to present).

Study Programme Co-ordinator, MSc in Production (From 2020 to present).

Course co-ordination of Flexible Manufacturing, 5 ECTS. Aalborg University (From 2018 to present).

3. University pedagogy qualifications: A list of any completed courses in university pedagogy, PBL courses, workshops, academic development projects, collegial guidance and supervision, etc.

Universitetspædagogikum:
Completed in 2018. Includes the following activities:

Compulsory module 1 (Teaching at PBL University) – 5. February 2018.

Compulsory module 2 (Planning and Implementation of Group Instruction) – 21. March 2018 and 4. April 2018.

Compulsory module 3 (The use of IT and Media for Learning and Teaching) – 22. June 2018.

Compulsory module 4 (The PBL Group – Collaboration, Process and Supervision) – 14. March 2018 and 12. September 2018.

Compulsory module 5 (Planning, Development and Quality Assurance of Study Programmes) – 20. November 2018.

Elective module 1 (Flipped Teaching with Podcasts) – 16. March 2018.

Elective module 2 (PBL in Engineering Science) – 2. May 2018.

Elective module 3 (Copyright and Plagiarism) – 23. May 2018.

Elective module 4 (Working with institutions and companies in project work) – 30. May 2018.

Elective module 5 (The Danish Code of Research Integrity) – 28. September 2018.

AAU Teaching day (incl. workshop on Digitalization and Student Engagement)– 3. May 2018.

CEFR certificate (C1 on CEFR) – 7. May 2018.

4. Other qualifications: Conference attendance, editorials, presentations, etc. relating to education, 'University Teaching Day', etc.

Attendance "University Teaching Day" from 2018-present.

5. Teaching activity development and teaching materials: A list of any contributions to the development of new modules, teaching materials, study programmes, e-learning, collaboration with external business partners, etc.

Development of teaching material:
MSc course: Flexible Manufacturing, 5 ECTS, Aalborg University. Development of course, including three lectures and their content, finding relevant material and case material for the lectures, preparing mini project assignment for students in relation to AAU smart lab learning factory, preparing video lectures for class preparation, as well as preparing the Moodle exam questions.

MSc course: Manufacturing Processes, 5 ECTS, Aalborg University. Restructuring of all previously used teaching material for the two given lectures, including making lecture presentations, finding literature, making case assignments, and preparing Moodle exam questions.

BSc Course: Selected Topics in Intelligent Manufacturing, 5 ECTS, Aalborg University. Development of two lectures and their content and finding relevant material and case material for the lectures.

Industry course (equivalent to MSc level): Changeable and Reconfigurable Production Systems, equivalent to 5 ECTS, Jönköping University, Department of Industrial Engineering and Management. Course coordination, course development, and lecturing.

Development of 1st year study tests and exams for SES:
I have during 2017 participated in developing 1st year study tests and exams for all new students in School of Engineering and Science. The exam seeks to identify the level of math of the new students and make recommendations of possible math courses to take, as well as identify the general expectations of the students in regard to studying at the university. I have participated in a small group aiming at developing the test and exam questions in both English and Danish, preparing the tests and exams in Moodle, and following up on the test and exam results.

AAU Engineering E-learning Group / Ambassador DEEP Project (PBL2.0):
Starting fall 2018, I have participated in the Engineering Faculty's E-learning group, as representative from the Department of Materials and Production. The objective of the group is to develop a digitalization and e-learning strategy and initiative for the AAU Engineering Faculty, and broaden knowledge and applications of flipped and blended teaching approaches.

6. Teaching awards you may have received or been nominated for.

N/A

7. Personal reflections and initiatives: Here you may state any personal deliberations as regards teaching and supervision, any wishes and plans for further pedagogic development, plans for following up on feedback/evaluations from students, etc.

As a university teacher, I believe that my biggest role is to facilitate and inspire learning. While as a researcher, I get the opportunity to push the existing boundaries of knowledge, engaging in teaching and supervision of students gives me the opportunity to share knowledge and support students in developing the important skills and competences needed for being engineers of the future. Therefore, teaching is a task that I find highly enjoyable and feel very passionate about.

I believe that preparing students to be future engineers in a volatile and increasingly complex business and manufacturing environment, requires that teaching promotes solid skills in solving complex and multi-disciplinary problems, creates a firm theoretical foundation and competences in applying newest knowledge, promotes creativity and systems thinking capability, as well as stimulates life-long learning skills. Taking advantage of newest technological developments is an important part of this, e.g. in communication and information technology.

In teaching, the objective for me is always to have students leaving the classroom, completing the courses, or finishing a project supervision session knowing that they have learned something valuable, interesting, and relevant and are motivated and inspired to go and seek more information and learning on their own. In achieving this, I have experienced that it is very important that students first of all see the "bigger picture" i.e. they see the relevance of the learning content, they understand the logic and structure of the learning content and key topics, the lecture is delivered in an informative, engaging and interesting way, and most importantly that the students are actively involved in creating learning. I rely heavily on the notion that "learning is not what the teacher does, but what takes place throughout active behavior of students".

Therefore, in my teaching I employ a variety of methods in order to increase student learning, motivation, engagement, and active involvement, not only in the classroom and during lectures, but also beyond the actual meeting with the teacher. I have experienced, that flipped and blended approaches to learning are extremely relevant, as they provide an opportunity to create a learning environment that promotes interest, learning effectiveness, and meaningful learning experiences. In my experience, the concept of blended learning is particularly effective for enabling both personalized and active learning, as the mixing of online virtual classroom activities, e.g. slidecasts, videos, and quizzes with meaningful face-to-face sessions focusing on problem-solving and active learning has proved to create and sustain a sense of community and increase learning beyond the temporal limits of the face-to-face meeting with the teacher. For example, in one of my courses, I have developed slidecasts and short videos for my lectures and combine these with learner-centered

course design in Moodle, in order to support student self-study and class preparation. During classes, I dedicate more time for active learning activities, e.g. actively involving the students in a case assignment or in a problem-oriented mini project taking outset in lab activities or the learning factory. I have seen how this blended approach to learning using different digital learning tools increases the academic level of the learned content, but also creates a learning environment that sparks intrinsic student motivation. In my future teaching career, I wish to explore further how flipped and blended approaches to learning can be used in engineering curriculum design to support active and personalized learning. I strongly believe that this is the learning model for the future.

In all of my teaching, I have experienced the importance of bringing both practice and research into the classroom. By including real-world problems from manufacturing companies in lectures, students are encouraged and inspired to engage in the learning experience and to reach beyond the boundaries of the curriculum. Also, my teaching is characterized by including not only fundamental theories and methods, but also state-of-the-art research. For instance, by bringing my own research on changeable and reconfigurable manufacturing into the classroom, students are able to see the immediate relevance of their learning, which sparks their interest and engagement. Moreover, using state-of-the-art research in teaching enables me to continuously update the curriculum, teaching material, and lecture content, so that the students acquire knowledge and competences to be successful engineers in the ever-changing manufacturing environment.

My approach to supervising problem-based student projects is characterized by a high level of commitment, interest, and active engagement in both the project work and the group learning and collaboration processes. In supervision, my objective is to support students in becoming and being self-directed learners, and to make sure that different types of students will be facilitated in selecting and applying relevant theory and methods to reach right solutions to the problems at hand. In particular, I find it important that students, or future engineers, are able to select the right methods and theories from their “toolbox” to address a problem and are able to reflect on different options and their applicability. Thus, I know from experience that it is important to not only provide suggestions and directions for the project work, but also to give critical feedback on the choice of methods and soundness in application of the selected methods. I take great pleasure in supporting students in being able to master and skillfully employ the knowledge we teach them.

I developed my interest and passion for teaching at an early stage in my life, where I learned the value of skilled and dedicated teaching from my mother, who is a devoted primary school teacher. Therefore, I believe that my chosen career as researcher and university teacher provides me with unique opportunities to not only shape engineers of the future that comply with requirements in the present manufacturing environment, but also to be a role model – particularly as a female engineering researcher. Throughout my life, teachers, especially female engineering professors, have been the foremost inspiration for my academic success. Ever since, it has been my aspiration to similarly serve as a constructive influence on my students, which is something I take very seriously and at the same time enjoy tremendously.

8. Any other information or comments.

N/A