

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.

(Created 2019)

Organizer and lecturer (courses):

- Ph.D. course: "Fracture Mechanics for Laminated Composite Structures". Held at the Department of Mechanical and Manufacturing Engineering, Aalborg University, 5 ECTS, 2012, 2015, 2017. (co-organized the whole course and held one lecture and 5 exercise sessions)
- M.Sc. course: "Numerical modelling". Held at the Department of Health Science and Technology, Idræststeknologi2, Aalborg University, 5 ECTS, teacher and organizer, 2015 and 2016, 2017. (10 lectures and exercise sessions)
- B.Sc. course: "Biomekanik I". Held at the Department of Health Science and Technology, Idræt2, Aalborg University, 5 ECTS, 2017. (8 lectures, 14 practical sessions, 8 exercise sessions)

Lecturer at (courses):

- B.Sc. course: "Fastofmekanik og anvendt FEM". Held at the department of Materials and Production, Aalborg University, 5 ECTS, 2019. (5 lectures, 5 exercise sessions, 1 self-study lecture)
- B.Sc. course: "Biomekanik I". Held at the Department of Health Science and Technology, Idræt2, Aalborg University, 5 ECTS, 2016. (8 lectures, 14 practical sessions, 8 exercise sessions)
- M.Sc. course: "Introduction course - Project based learning at AAU"., Held at the Department of Mechanical and Manufacturing Engineering, DMS1, Aalborg University, 2016, (1 lecture)
- M.Sc. course: "Introduction to FORTRAN"., Held at the Department of Mechanical and Manufacturing Engineering, DMS1, Aalborg University, 2016, (1 lecture)

Formulation of projects and supervision of students in the following projects:

- Master Thesis, "Experimental and Numerical Studies on Fatigue Delamination at Ply-Drops in Compression-Compression Cyclic Loaded Glass Fiber Reinforced Polyester Tubes Without Free Edges", Aalborg University, M. A. Fremmelev and O. Nielsen, 2019.
- Master Thesis, "Static Failure Analysis of Composite Tube with Ply Drops Subjected to Combined Bending and Compression Loads", Aalborg University, I. Ruiz, 2019.
- 9th semester project, "Numerical and Experimental Parameter Study of Fiber Composite Tubes Loaded in Eccentric Compression to Characterize Effects of Ply Drops and Stability of Crack Propagation", Aalborg University, M. A. Fremmelev and O. Nielsen, 2018.
- Master Thesis project, "Inverse Parameter Identification for Multilinear Cohesive Laws", Aalborg University, S. M. Jensen and M. M. Sanchez, 2017
- 9th semester project, "Inverse Parameter Identification for Mode I Multilinear Cohesive Laws", Aalborg University, S. M. Jensen and M. M. Sanchez, 2016
- 9th semester project, "coupling explicit sheet forming simulations with implicit structural simulations", Aalborg University, N. W. Laue, 2016
- Master Thesis, Aalborg University, "Quantification of structural loading, during race scenarios, and initial frame stiffness optimization using Finite Element Analysis of a handbike", M. S. Mouridsen and R. K. Pedersen, 2016.
- 9th semester project, Aalborg University, "A new cohesive finite element with rotational element DOFs for improved convergence", S. R. Andersen, 2015.
- 9th semester project, Aalborg University, "Design and analysis of crack stopping features in adhesively-bonded composite structures", J. Jensen, 2015.
- Bachelor thesis, A. N. Thomsen, J. S. Marciniak, S. Hedegaard, S. J. Toft, Aalborg University, "Blade Dragon - A design of a flexible lifting device for wind turbine blades.", 2014.
- Master Thesis, Aalborg University, "Formulation of Cohesive Finite Element for Analysing Strength of Wrinkles in Glass-Epoxy Laminates", E. T. Christensen, J. H. Sjølund, J. A. Glud, 2013.
- Master Thesis, Aalborg University, "Analysis of Ply Drops Using Cohesive Zone Models", P. Barrotta, 2012.
- Master Thesis, Aarhus University, "Fatigue Analyses of Ply-drops", K. L. Beck, J. Høeg, 2012.
- Master Thesis, Aarhus University, "Experimental Determination of Fracture Mechanical Properties and Modeling of Delamination Damage", S. Ø. Gadgaard, A. B. Høst, 2011.
- 3 x 1st semester Design of Mechanical systems, Aalborg University,
- 4 x 1st semester projects, Maskin og Produktion, Aalborg University.
- Supervision of Ph.D. students:
- Co-supervisor for Laura Carreras, AMADE, Universitat de Girona, Spain, 2016-2018.
- Co-supervisor for Jon Svenninggaard, VIA University College Horsens and Aalborg University 2016 -.
- Co-supervisor for Simon Mosbjerg Jensen, Aalborg University, 2018 -.
- Co-supervisor for Guillem Gall Trabal, Aalborg University, 2018 -.

Censor tasks:

- 2 x Biomekanik II, Idræt, Aalborg University, 2015-2016.
- 2 x Mechanics of Materials, Sports technology, Aalborg University, 2015-2016.
- 3 x 9th semester project, Sports technology, Aalborg University, 2015-2016.
- 3 x 7th semester project, Design of mechanical systems, Aalborg University, 2015-2016.
- 1 x 9th semester project, Design of mechanical systems, Aalborg University, 2015-2016.

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.

Type your answer here...

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

- Ph.D., M.Sc., and B.Sc. degrees from Aalborg University
- Adjunktpædagogikum, 10 ECTS, started 2014, The adjunktpædagogikum includes the following workshops:
 - o"Enhancing feedback and facilitating student reflections in groups"
 - o"PBL 4.0- successful integration of ICT into PBL teaching"
 - o"Lecturing in large classrooms"
 - o"Teaching and learning in Higher Education (HE) (University pedagogy)"
- Ph.D. course on "Find Focus and Strengthen Quality", Spring, 2011, 3 ECTS.
- AAU certification in English as the medium of instruction to level C1 of the Common European Framework of Reference for Languages (CEFR).

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

Type your answer here...

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.

As a part of my involvement in the courses described in section 1 I have developed the following course material in the shape of slides, exercises, and exam questions:

- Development of new slides for Biomekanik 1 (I have made approx. 80% of the slides)
- Development of lecture and new slides for two modules in the Ph.D. course on Fracture Mechanics
- Development of new slides for Numerical modelling. This was done for 3 courses at the same time as they share many topics. The teacher on the other courses is Esben Lindgaard, Lektor ved M-tech AAU) and we shared the workload. During the process we had many good discussions on the pedagogical approach in the courses.
- Development of exercises for Numerical modelling and Biomekanik 1
- Development of self-evaluation questions for Numerical modelling and Biomekanik 1 (3-5 questions/themes for a total of 16 lectures)
- Changed the approach of Biomekanik 1 such that a problem based approach is taken in the practical part of the course (analysis of a concrete problem and synthesis to design activities to help the problem.)
- Made changes to the exam questions for Numerical modelling and Biomekanik 1.

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

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 pedagogic development, plans for following up on feedback/evaluations from students, etc.

Type your answer here...

8. Any other information or comments.

Type your answer here...