

Undervisningsportfolio

1. Undervisnings-CV: Oversigt over undervisnings- og vejledningsopgaver med angivelse af fagområder, omfang, niveau (BA, kandidat, EVU, Ph.d) samt evt. censoropgaver.

Courses on Master Level:

Previous:

- Aerospace Engineering
- Model Predictive Control
- System of Systems
- Hybrid Systems
- Matematisk Modeling og Simulering af teknologiske systemer II

Current:

- Hybrid Systems
- Model Reduction
- Advanced Nonlinear Control
- Mathematical Control Theory
- Modelling of Mechanical and Thermal Systems

Courses with Industry:

- Multivariable Feedback Control for Danish University Wind Energy Training.

Student Supervision:

- 6th, 7th, 8th, 9th semesters, and Master projects in Control and Automation
- 6th semester Matematik-teknologi

- Nonlinear Control
- Motion and Path Planning

Courses on PhD Level:

- Control and Optimisation
- Differential Geometry
- Nonlinear Differential Equations and Dynamical Systems
- Introduction to the PhD study
- Building the Bridge between Electric Grid Control and Communications in Smart Grids
- Verification of dynamical and hybrid systems

2. Studieadministration: Oversigt over studieadministrative opgaver, eksempelvis medlem af studienævn, studieleder, semesterkoordinator, fagkoordinator, akkreditering m.v.

Head of doctoral program for Electrical and Electronic Engineering

3. Universitetspædagogiske kvalifikationsforløb: Oversigt over gennemførte universitetspædagogiske kursusforløb, PBL-kurser, workshops, udviklingsprojekter, kollegial supervision o.l.

- University Pedagogy for Assistant Professors, Centre for University Teaching and Learning, Aalborg University (1997-1999).

- Design and implementation of a new M.Sc. EE specialisation at Aalborg University: Intelligent Autonomous Systems. During the following 10 years, the specialisation was the most popular choice among the students in the Department of Electronic Systems (1998-1999).

- Start-up, fundraising and management of AAU student satellite program: AAU CubeSat. Each year over 50 students from across the university participated in this interdisciplinary program. AAU CubeSat was launched on June 30th, 2003. The program continues its successful existence at AAU with its currently 3rd satellite mission (2001-2003).

- Site manager of an educational project: Tele-Education in Mechatronics and Aerospace (TEAM). The objective of the project was to develop an international laboratory for teaching in mechatronics across Europe (Germany, Italy, Denmark) and Canada (1999-2004).

- Teaching supervisor for Jan D. Bendtsen and John J. Leth

4. Anden form for kvalificering: Konferencedeltagelse, debatindlæg, oplæg m.v. i relation til uddannelse, "Undervisningens dag", o.l.

- Teaching of "Fremtidens intelligente afløbssystemerkriv" for Ferskvandscentret i Silkeborg
- Talk at "Platformen for Smart Energi" at Energi-, Forsynings- og Klimaministeriet

5. Undervisningsudviklingsforløb og undervisningsmateriale: Oversigt over medvirken til udvikling af nye moduler, undervisningsmateriale, uddannelser, e-learning, samarbejde med eksterne samarbejdspartnere o.l.

Lecture Notes on Modelling of a Spacecraft

Online Lecture Notes on Modelling of Mechanical Systems:

- System of Differential Equations
- Introduction to Calculus of Variations
- Lagrange Mechanics
- Method of Lagrange Multipliers

Lecture Notes on Verification of Control and Hybrid Systems

6. Nominering til og/eller modtagelse af undervisningspriser.

Skriv dit svar her...

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.

I use diversified teaching forms dependent on the contents, the level of understanding (according to Bloom's taxonomy), the teaching objectives and the situation, e.g., mentoring during project-supervisions, tutoring during exercise-sessions, blackboard lecturing, and lecturing supported by computer visualisations and simulations. I formulate precise learning objectives beforehand. I encourage students directly and indirectly to take actively part in the learning process by questions, puzzles, and examples from engineering practice. I asses continuously learning standard, student attention and effort, and I adjust the teaching form to reach the learning objectives. Skriv dit svar her...

8. Andet.

Skriv dit svar her...