

Undervisningsportfolio

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

Educating students at undergraduate and graduate levels PhD students as well as professionals from the industry and public authorities provides the basis for enhancing sustainable societal developments.

For this reason I engage in teaching activities not only at higher educational and research institutions but also in support of continuing education in collaboration with the industry and public authorities at both national and international scales.

During my career, I have been giving courses for students and professionals in Denmark, Switzerland, Mexico, China, Brazil, Italy, Portugal, Austria, Germany, Norway, Sweden, France, Singapore, Thailand and Spain.

It is my philosophy that teaching should be founded on general subject matter expertise, experience from engineering consulting and advise, as well as forefront research insights. Moreover, it is my experience that the learning objectives are most clearly and coherently achieved if there is full alignment between the teacher's perspectives to the taught subjects and the teaching material provided to the students.

Following this line of thinking, I have developed my own course material for courses at undergraduate level in Basic Statistics and Probability as well as at graduate and PhD level on Risk and Safety in Civil Engineering. An underlying philosophy of my courses is to highlight the relevance and significance of statistics, probability and risk assessments for engineering decision making, with an emphasis on the underlying theoretical foundation. To facilitate that my teaching achieves the largest possible impact I have published my teaching material and to the extent possible made it available also on the internet. From past teaching assignments at ETH Zürich in Switzerland my lectures on basic statistics and probability theory are available as video streaming (link to video streams), my lecture notes on Risk and Safety in Engineering are available upon request (mf@civil.aau.dk) and my lecture notes on Basic Statistics and Probability Theory have been published by Springer (link to book).

My past and present teaching assignments include:

Systems Engineering (at AAU Risk Centre in Esbjerg) – at undergraduate level

Basic Statistics and Probability Theory – at undergraduate level

Risk and Safety in Civil Engineering – at graduate, PhD and continuing education levels

Decision Analysis in Engineering – at graduate level

Linear Finite Element Methods – at graduate level

Non-linear and Dynamic Finite Element Methods – at graduate level

Specialized PhD courses on issues of risk and safety:

- Applied statistics and probability theory in engineering

- Probabilistic Structural Dynamics

- Bayesian Probabilistic Nets

- Excursions of random fields

- The Finite Element Method and the Analysis of Systems with Uncertain Properties,

- Robustness, Resilience and Sustainability of critical infrastructure

Master of Advanced Studies (continuing education) in: Management of Risks due to Natural Hazards

Specialized (continuing education) courses on:

- Risk Based Inspection Planning for Offshore Structures

- Risk Based Inspection Planning for FPSO/FSO oil and gas production facilities

- Reliability and risk assessment in engineering

Certification course on risk and safety for technical systems – continuing education

- decision theory, general methods of risk assessment, basic probability and statistics,

theory and application of Bayesian probabilistic nets, methods of structural reliability,

case studies)

I have been supervising a larger number of BSc and MSc thesis projects and been main PhD supervisor of 20 PhD students of which 7 are now university professors.

Presently I am main supervisor for 1 PhD student at AAU, co-supervising 1 PhD student at DTU and 4 PhD students at international level (UK, China and Portugal).

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

Extensive experience from ETH and DTU

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

ETH teachers training

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

See under 1.

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

See under 1.

6. Nominering til og/eller modtagelse af undervisningspriser.

Nominated best PhD supervisor at ETH (2nd place)

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.

See under 1.

8. Andet.

Skriv dit svar her...