

Teaching portfolio

Jerome Jouffroy
Institute of Mechanical and Electrical Engineering
SDU Mechatronics (CIM)
SDU Climate Cluster
Email: jerome@sdu.dk
Phone: +4565501642



Pedagogical view: Educational practice - Basis / values

My teaching uses a lot of simple examples to introduce the student to the essence of the automation topics covered, making generalization a much easier task. In the process, it is also important to try-out things for real with actual implementation and small experiments. Being able to adapt to each of the student's knowledge and need is essential to the success of proper knowledge transfer. It is therefore essential to me to get to know and engage people. Small projects are also something that I truly enjoy as a teacher, as students get to discover important topics while being able to express their creativity.

Teaching experience

Below is a list of courses I have taught since I started teaching in 2000. A star * appended means that the corresponding course was introduced or entirely re-defined by me.

- Computer architecture labs (University of Savoie, France, first year IUT program): binary operations in C, register programming, addresses.
 - Adaptive control (Norwegian University of Science and Technology, Trondheim, graduate course): advanced course on adaptive automation.
 - Control Engineering 1 * (University of Southern Denmark, bsc course): basics of automation with basic programming and practical experiments.
 - Control Engineering 2 * (University of Southern Denmark, bsc course): digital automation concepts with more advanced Matlab programming and C. Includes 2 lectures on neural networks.
 - Introduction to Cybernetics * (University of Southern Denmark, bsc course): introductory course on dynamical systems and machine intelligence, using simple high-school mathematics, Matlab and Python.
 - Control Systems * (University of Southern Denmark, msc course): basic master course on fundamentals of modern automation, with theory, computer exercises and advanced experimental practises in our Cyber-Physical Laboratory.
 - Nonlinear Control (University of Southern Denmark, msc course): advanced course on automation for nonlinear system.
 - Mathematics for engineers (University of Savoie, France, 1st and second year of 2-year short engineering program "IUT" after high-school): series and sequences, vectorial calculus, functional analysis.
 - Wave propagation labs (University of Savoie, France, second year of 2-year IUT program): lab sessions including sound propagation, light, diffusion, refraction, etc.
 - Experts-in-Teams (University of Southern Denmark, bsc course): course where students have to organize in teams and have one semester to solve a particular problem (make an autonomous sailboat, design a hydraulic benchmark, etc.), either posed by a company or an institution.
 - Mechatronic Design and Build * (University of Southern Denmark, msc course): advanced project course where students should design and implement a mechatronic product, where a strong emphasis is put on machine intelligence and programming. Over the years, many different projects were introduced, all of them related to robot technology including IoT aspects (underwater drone, stair-climbing smart trolley, collaborative mobile robots for I4.0, etc).
- In addition to the above, I have supervised/co-supervised many bsc and msc projects.

Formal pedagogical training

Pedagogical training from the French ministry of education and research (1999-2002).

Other activities related to teaching and teaching development

- member of the censor corps in Denmark,
- took part into the development of several profiles within the master in Mechatronics at the Mads Clausen Institute