

Jørgen Munch-Andersen (BUILD): Video lecturers on timber connections

There is next to none formal education in timber structures at BUILD. For self-studying connection of timber and wood-based materials is the most difficult part since it deviates much from other materials, whereas beams and columns is not to different from steel. Therefore we made these recorded lecturers, supplemented by exercises and recommended literature.

Ann-Louise Andersen (M&P): Micro-credential - Introduction to Production Systems

Many students work on projects that involve the development and optimization of products and the production of these. Thus, studying production systems is essential for many students. After completing this micro-credential, the student should be able to i) know and understand the fundamental elements and concepts within production systems, ii) know and understand the relationship between product design and development of production systems, iii) explain the fundamental design decisions during production system development, and iv) be able to engage and communicate with professionals involved in the development of new production systems, including design, evaluation, selection, implementation, and operation of production systems. In this presentation, the AAU Microcredential on production systems is presented and learnings from developing microcredentials are outlined.

Jakob Hærvig (og Thomas Arild)(ENERGI +): Getting started with Python for scientific programming

This microcredential course will introduce students to Python. Python is the most popular programming language worldwide due to its flexibility and support from the ever-growing but already massive community. Python can replace many of the commercial programming languages and is free to use, which makes Python the preferred programming language in many companies. Even though Python is used for cutting-edge research it also serves as an excellent choice as the first programming language to learn due to its simplicity.

René Bødker (MAT): Public Key Cryptography and Cryptographic Signatures: A microcredential"

This microcredential covers the basics of public key cryptography and cryptographic signatures with a special focus on the RSA cryptosystem. I will present some of the considerations made during its development.

Erik Schaltz (ENERGI): Batteries for electric cars

Heidi Simone og Rikke Huulgaard (PLAN): UN's 17 sustainable developments goals

Chen Li (M&P): Getting Started with AI on Jetson Nano

The proposed course will assist students in using Jupyter IPython notebooks on Jetson Nano to build a deep learning classification project with computer vision models. This presentation will go into the inspiration for creating this course, the learning objectives, and the overall experience of course preparation.

Lisbeth Fajstrup (MAT): Mathematics for first year students - keeping the students interested, working and learning.

Mathematics is part of the foundation for most engineering and science study programs. We will give examples of how on the one hand to answer the students questions "where do I need this in my later studies?" and on the other hand not pretend to solve difficult engineering problems which are not attainable, neither on the mathematical side nor on the engineering side, for first year students. Moreover, we will show how courses are now given in 18 different versions - chosen by the study boards - and moreover at both Aalborg, Copenhagen and Esbjerg - with the use of digital methods - such as streaming, videos, online self-study and online help desks for exercises.

Alessia Napoleone (M&P): Taking the leap into AAU PBL model - the perspective of an international colleague

In this presentation, I wish to share my experience of transitioning from traditional teaching to PBL, as well as the methods and tools adopted to face this challenge. I am now working at the development of practical solutions, such as standard procedures and templates, for PBL teaching in Industrial and Production Engineering. I hope this can also be an opportunity to collect feedback from experienced PBL colleagues. This would support us in creating shared solutions to convey the AAU teaching model to new colleagues.

Mads Pagh Nielsen (ENERGI): Development of micro-credential around power-2-x and carbon capture"

The presentation will give an overview of the activities that are being worked on as well as the experiences with the media used in the preparation

Pernille Christina Paulsen: *Sustainability in practice*

Rasmus Andersen (M&P): *Bringing State-Of-The-Art Research Closer to Practitioners Through On-Demand Microcredentials*

Today's fast-paced development implies a need for practitioners to stay updated on recent research. Nevertheless, even research in mature areas is typically not communicated in a manner targeting practitioners resulting in industry often lacking behind in adopting findings from research. Thus there is a need to efficiently transfer state-of-the-art research to practitioners in a conducive manner. As a proposed solution to this challenge, we have developed an on-line, on-demand Microcredential course on reconfigurable manufacturing designed specifically to appeal to practitioners. In this presentation, I will share our experiences (both good and bad) with disseminating research to industry.

Jesper Hemdrup (M&P): *Operations and supply Chain management*

Christophe og Eduardo (MAT): *A Quick Introduction of Julia Programming for Data Science*

Julia is a high level, dynamic programming language built to be as fast as C or C++ while remaining as easy to use as Python. It is a modern technical language, intended to replace Matlab, R, SciPy, and C++ on the scientific workbench. Hence, gaining proficiency in Julia can significantly enhance students' productivity. The microcredential introduces key concepts relevant to the Julia programming language, like multiple dispatch. Moreover, the microcredential studies some of the most successful algorithms for Data Science and guides the students to develop them in Julia. Examples with real data will be used to show Julia language's simplicity and efficiency

Søren Bolvig (SSH): *User-oriented problem framing*

The presentation will discuss how active involvement can be retained through the MOOC format. The format challenges the dimensions of PBL, and this presentation will discuss how students of a micro-credential course can be encouraged to apply the PBL way of working.

Reinhard Wimmer og Rudi (KEMI/BIO): *Experiences and Obstacles Developing a Microcredential on Laboratory Safety*

We will present our microcredential on laboratory safety and present some of the obstacles we met in the process.

Kim Lambertsen (KEMI/BIO): *Basic chemistry skills*

Mogens Sparre (og Tom)(SSH +): *Emotional intelligence in management*

Niels Iversen (KEMI/BIO): *Safety instructions when working in microbiological laboratories*

Anderson de Souza (M&P): *AAU Microcredential – Basic skills in Matlab*

Learning a programming language is highly relevant for students in multiple disciplines, allowing more independence and the acquisition of essential skills desired on the currently competitive job market. The AAU microcredential Basic skills in Matlab is an interesting learning tool for students interested in learning a computational language that is widely used in high-education and cutting-edge science. We will present some of the content of the microcredential, explaining the benefits and challenges of learning a programming language. Moreover, we will address some of the challenges in creating the microcredential and the expected impact the content will have on the student's education.

Thomas Nielsen (SSH): *PtX and Energy Sector Integration*

Introducing why and how PtX technologies may be used as a gateway between different types of energy grid.

Hendrik Knoche: *A microcredential for microcredential makers*

This demonstration/talk will provide an overview of a microcredential course for teachers at AAU. The course walks interested teachers through the process of setting up microcredentials in Moodle and provides materials the teacher can use for the students when claiming these microcredentials.