



Enhancing Engineering Education w3 2018

Address: Osquars backe 31.

Venue KTH Library building, room Lallerstedt, unless otherwise stated.

Monday 15 January		
09.15 – 12.00	Introductions: <ul style="list-style-type: none"> ▪ How this week will work ▪ Participants and facilitators ▪ Introduction to Swedish Higher Education ▪ Education Management and Development ▪ Faculty Development in Sweden 	AKH, MB
12.00	Lunch	
13.15 – 16.00	CDIO – the Idea, Methodology and Community CDIO is explained from three perspectives. First it is an idea regarding what engineering students should learn and why. It is also a methodology for curriculum and course development. Finally, the CDIO Initiative comprises over 130 universities (see www.cdio.org) and is a dynamic community for engineering educators.	KE
16.15 – 18.00	Welcome reception In Teachers' Lounge	

Tuesday 16 January		
09.15 – 12.00	How to improve student learning in lectures – Peer instruction Peer Instruction, a method that turns lectures into vivid interactive discussion sessions, is introduced, demonstrated and analyzed from a learning perspective. Different technical solutions to implement the method are demonstrated, including low-tech, no-cost alternatives.	FL
12.00	Lunch	
13.15 – 16.00	Problem- and project based learning In Mechanical engineering.	MEG

Wednesday 17 January

09.15 – 12.00	Integration of sustainable development in the educational programs at KTH will be illustrated from several perspectives. We will describe the different processes conducted at KTH, including various pedagogical tools for course design, teaching and examination as well as student engagement. We will also discuss how different course contents can relate to the Sustainable Development Goals.	AR, ES
12.00	Lunch	
13.15 – 16.00	Workshop: level of integration Characterization of the level of integration of sustainable development in engineering educational programs and/or correlated courses.	AR, ES

Thursday 18 January

09.15 – 12.00	The Teaching Trick – How to improve student learning without spending more time teaching The key principle here is that teachers should spend more of their time doing things that lead to high quality learning, and less time on such things that do not lead to learning. Concrete examples will be used to illustrate the principle, challenge old ways of thinking and question some taken-for-granted practices in education.	KE
12.00	Lunch	
13.15 – 16.00	Study visit at Open Lab http://openlabsthlm.se/about/ Labtour at KTH Schools (optional) Visit labs at KTH or an area of your own interest in Stockholm https://www.visitstockholm.com/	HB

Friday 19 January		
09.15 – 12.00	Workshop: Strategies for change This workshop aims to share and explore strategies for implementing educational change. Curriculum, staff, organizational and Student level aspects will be explored. The Student Union at KTH will share their ideas and experiences on strategies for educational change.	AKH, EL
12.00	Lunch	
13.15 – 16.00	Meet Ed Crawley, instigator of the CDIO initiative Lead author of the book, <i>Rethinking Engineering Education, the CDIO Approach</i> . He will take your questions on engineering education reform, which you will have the opportunity to formulate during the week. Roundup meeting The week will be finalized with a reflective session where participants discuss and summarize the course given at KTH. Strategies for the future will be explored as well as future collaborations.	EC, KE AKH, MB

Teachers (in order of appearance):

AKH – Anna-Karin Högfeldt <https://www.kth.se/profile/akhog>
 MB – Margareta Bergman <https://www.kth.se/profile/margberg?l=en>
 KE – Kristina Edström <https://www.kth.se/profile/kristina>
 FL – Fredrik Lundell <https://www.kth.se/profile/frlu>
 MEG – Martin Edin Grimheden <https://www.kth.se/profile/mjg>
 ES – Emma Strömberg <https://www.kth.se/profile/emmast>
 AR – Anders Rosén <https://www.kth.se/profile/aro>
 HB – Hans Bodén <https://www.kth.se/profile/hansbod>
 EL – Elisabet Lökvist <http://ths.kth.se/about-ths/ths-central/karledning/>
 EC – Ed Crawley <http://aeroastro.mit.edu/faculty-research/faculty-list/edward-f-crawley>

His other experiences include:

- Founding President of the Skolkovo Institute of Science and Technology (Skoltech), Moscow, a new university focused on science and innovation.
- Director of the Bernard M. Gordon – MIT Engineering Leadership Program, an effort to significantly strengthen the quality of engineering leadership education for competitiveness and innovation.
- Executive Director of the Cambridge – MIT Institute, a joint venture with Cambridge University, funded by the British government and industry, with a mission to understand and generalize how universities act as engines of innovation and economic growth.
- Department Head of Aeronautics and Astronautics at MIT, leading the strategic realignment of the department.
- Ford Professor of Engineering at MIT.