Adaptation to Future Environments

TRA105 (7.5 HP)/125 (15 HP)

The Adaptation to Future Environments TRACKS course aims to address the emerging challenges of adaptation to the rapidly changing technological, social and natural systems. The very nature of our predicament requires trans and interdisciplinary collaborations between experts in all fields, therefore, this course brings students together from various disciplines to collaborate and solve real-world challenges through ‘live, smart building projects’. In this course students solve a challenge by taking an idea from concept to implementation where a broad range of expertise is required to evolve the way we rethink the physical environment and our place in the world in order to create a more sustainable built environment.

Regardless of your background, the course is suited for students from a diversity of programs and interests related to, but not limited to, the fields of energy, materials, entrepreneurship, project and construction management, computation, automation, material science, as well as all forms of civil engineering and architecture. The course will bring students, teachers and researchers from all areas of Chalmers together around a design thinking process related to a smart building.

**students can choose to take 7.5 or 15 points depending on their needs and schedules**

**COURSE FRAMEWORK**

**THE CHALLENGE**

We will be working on the densification of the Swedish housing stock by Robotic Construction, Digital Manufacturing and offsite construction in combination with reusable building parts and materials that will minimize disruptions for existing residents.

To meet this challenge we endeavor to harness the power of digital twin technologies and the digitalization process and construct a lightweight solar powered rooftop living unit using a cellulose based bio-ploymer additive manufacturing process. The demonstration unit is called C-Hive (www.c-hive.com) and if we are successful will compete in the Solar Decathlon Europe Competition (https://sde21.eu/) in Wuppertal, Germany in June 2022 where 18 University Teams from around the world are competing in ten contests related to climate smart construction. Please join us for an unforgettable learning experience!

study period  
Spring 2022 LP 3+ LP 4

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who can apply  
All Master’s Programme students at Chalmers interested in learning to apply their knowledge and skills into an interdisciplinary ‘live’ smart building project

application  
Due to limited number of places students are asked to send a MotivationLetter - max. 1 page A4 to jonas.lundberg@chalmers.se