

## CIVIL-424 Innovation for construction and the Environment / Fall 2025

Tuesdays 16:15-18:00 pm Lectures  
 Tuesdays 18:00 - 19:00 pm Project discussions and continuous reporting  
 Office hours: Tuesdays morning (upon email request and confirmation)

Room GRA331

			Title
Week 1	09.Sep	45 mins 45 mins	Introduction to the course Disruptive, Incremental Innovation and Research, Projects from last year and takeaways
Week 2	16.Sep	45 mins 45 mins	Cement-free concrete Cement-free concrete
Week 3	23.Sep	45 mins 45 mins	Circular economy, Impact and Life Cycle Assessment Sustainalytics
Week 4	30.Sep	45 mins 45 mins	Harnessing renewables for buildings Harnessing geo-energy for buildings
Week 5	07.Oct	45 mins 45 mins	Data-driven structural health monitoring and damage detection for smart infrastructure and buildings Data-driven structural health monitoring and damage detection for smart infrastructure and buildings
Week 6	14.Oct	45 mins 45 mins	Project preparation / Paper reading Project preparation / Paper reading
Week 7	28.Oct	45 mins 45 mins	Industrial innovation from the perspective of a construction giant Industrial innovation from the perspective of a construction giant
Week 8	04.Nov	45 mins 45 mins	Sustainalytics Sustainalytics
Week 9	11.Nov	45 mins 45 mins	Traffic Operations, Unmanned Aerial Systems (UAS) and Data Science for smart mobility Traffic Operations, Unmanned Aerial Systems (UAS) and Data Science for smart mobility
Week 11	18.Nov	45 mins 45 mins	Monitoring and surveillance GIS and BIM for construction and risk management
Week 12	25.Nov	45 mins 45 mins	Nature-based innovations Nature-based innovations
Week 13	02.Dec	45 mins 45 mins	Parametric design Robotic construction
Week 14	09.Dec	45 mins 45 mins	Project presentations - schedule to be announced Project presentations - schedule to be announced
Week 15	16.Dec	45 mins 45 mins	Synthesis of Innovation project and takeaways Synthesis of Innovation project and takeaways