Human-Centric Environments
Evaluating climatic impacts on perception & well-being indoors

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TR 14:00-15:20, LA 279
3-4* credits

INTRODUCTION
This course will introduce students to a range of method for evaluating the effects of outdoor climate on human perception and well-being in the indoor environment. In pre-industrial times, we spent a substantial amount of time outdoors, exposed to daylight and fresh air during productive hours, which were limited by the rise and set of the sun. Increased urban density and advances in electric lighting and indoor climate control have led to increasingly longer durations of indoor occupation. Today, the average human living between 41N and 46N spends an estimated 2h outside each day, a number which has decreased by 0.5 hours in the past 8 years,\textsuperscript{1}\textsuperscript{2}\textsuperscript{3} and yet the building sciences invest relatively little toward understanding the effects this prolonged indoor occupation may pose on human well-being. This course will teach the dynamics of indoor environment - driven by climate factors - and the impacts those dynamics have on physiological and psychological human responses in architecture.

COURSE OVERVIEW
The aim of this course is to shift our understanding of performance from a building-centric, to a human-centric perspective. Beginning with a series of lectures, this course will then offer hand-on instructional workshops in simulation, instrumentation, and survey methods geared towards assessing the impact of climate on human perception and well-being. In small teams, we will then use a mix of methods to evaluate an existing building on campus and discuss the interpretations each method may offer to our holistic understanding of environmental performance in that space. While digital modelling and simulation will be encouraged for some project teams, it is not a requirement for participation in this course. A range of recording and evaluation methods will be encouraged to foster healthy debate. Students are expected to participate actively in instructional workshops and field activities. Graded or P/N - evaluation will be based on participation in weekly lectures and the delivery of a final project.

WORKSHOPS INCLUDE

- measurement
- field surveys
- simulation
- virtual reality


\textsuperscript{*4} credit option satisfies requirements for the Advanced Technical Elective