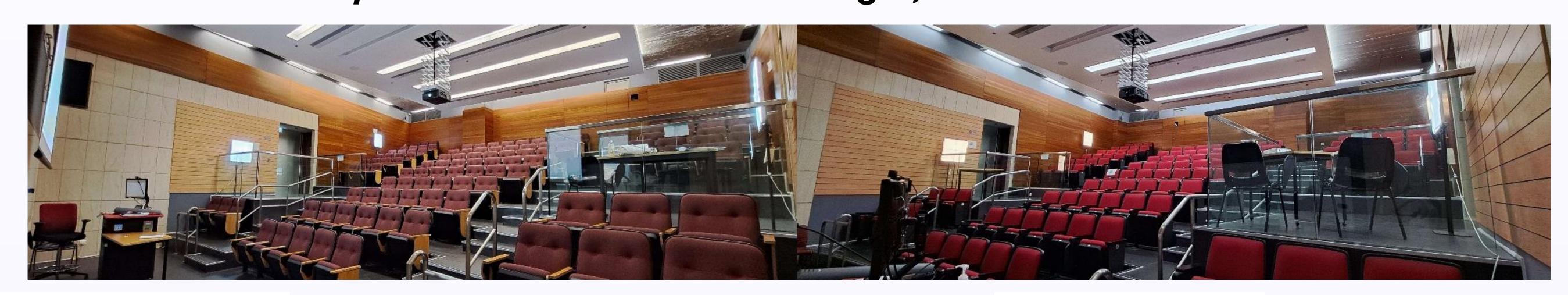


## Impacts of Applying Simulated Windows in Windowless Lecture Theatres on Students' Perception

Miss YEUNG Ka Wai, BEng (Hons) in Building Services Engineering, Faculty of Science and Technology Supervisor: Ir Dr NG Tsz Ho Roger, Associate Professor



#### 1. Introduction

The lecture theatres in Hong Kong are usually windowless. The functions of windows are to provide *Daylight, Sunlight, Ventilation, View and Privacy*. To represent windows in the lecture theatres, *Simulated Windows with Circadian Lighting Design* will be used. This project investigated the *impacts on students' study perceptions* from windowless lecture theatres and simulated windows.









### 2. Objectives

This project aims to investigate:

- Impacts of applying *simulated* windows in windowless lecture theatres on *students' perception*
- Importance of windows in study environments on human comfort & health & students' study performance
- Impacts of students' study performance in windowless
- Significance of circadian lighting design or human-centric lighting design

### 3. Methodology

### Data Collection Before Installation

- Illuminance on the Desktop
- Illuminance at Eye
- Questionnaire (Opinions on the Environment of Lecture Theatres)

## Simulated Windows Installation

- 4 LED Lighting Panels in each Lecture Theatres
- CCT Change by Every Hour

## Data Collection After Simulated

- Illuminance on the Desktop
- Illuminance at Eye
- CCT of LED Lighting Panel
- Questionnaire (Opinions on the Environment of Lecture Theatres)

### Data Analysis

- Illuminance Level Comparison
- CCT Comparison
- Questionnaire Result Comparison

### 4. Findings

Illuminance Level Increased

Indoor Comfort Increased

Study Perception Improved Simulated Windows Effective

Uniformity Decreased

### 5. Conclusion

- Windows are *important* for the students
- Simulated Windows can address no window problems
- Simulated Windows can improve study perception

# 

### 6. Limitations

- Time Limitations (Cannot Show the Long Term Impacts)
- Installation Method Limitations (Reduces the Efficiency)
- Quantity of Respondents (Cannot be Used to Explain the Publics' Perceptions)