SBS5498 Final Year Project 2 (Applied Research Project)

http://ibse.hk/SBS5498/

Suggested Topics from Supervisors (2018-2019)

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1.	Project Title	The role of education in implementing BIM for BSE
	Objective	To compare the pedagogies of BIM for BSE in Hong Kong and in overseas countries
	Methodology	Qualitative, desktop research, survey and interview
	Equipment	NIL
	Deliverables	Educational strategies for implementing BIM for BSE in Hong Kong

2.	Project Title	Applying BIM for BEAM Plus submission
	Objective	To explore the opportunity of applying BIM technology to the BEAM Plus certification process
	Methodology	Computational simulation
	Equipment	Revit, IESVE
	Deliverables	A recommended procedure of applying BIM for BEAM Plus submission

3.	Project Title	Lighting quality improvement by using advanced nanocoating luminaires
	Objective	To study the possible improvement in lighting quality by replacing the traditional luminaires with highly reflective luminaires
	Methodology	Field measurement
	Equipment	Luminance meter, SLR digital camera, wide angle lens, tripod, MacBook
	Deliverables	A report showing the comparison in various aspects of lighting quality

4.	Project Title	Impact of camera white balance settings on the accuracy of luminance acquisition by using high dynamic range imaging
	Objective	To investigate the impacts of white balance settings at different lighting conditions on obtaining accurate luminance values by HDR imaging
	Methodology	Experimental measurement, computational simulation
	Equipment	Photoshop, luminance meter, SLR digital camera, tripod, MacBook
	Deliverables	A recommended camera white balance setting for HDR imaging

5.	Project Title	Light pollution survey in urban districts of Hong Kong
	Objective	To conduct a survey on current light pollution in urban districts in Hong Kong after the implementation of Charter on External Lighting since 2016
	Methodology	Field measurement
	Equipment	Lux meter
	Deliverables	A preliminary evaluation report on the effectiveness of Charter on External Lighting

6.	Project Title	Perception of light pollution in Hong Kong
	Objective	To study the citizens' current perception of light pollution in the urban districts of Hong Kong after the implementation of Charter on External Lighting since 2016
	Methodology	Qualitative, survey and interview
	Equipment	NIL
	Deliverables	A preliminary evaluation report on the effectiveness of Charter on External Lighting

7.	Project Title	Estimation of background light level due to neighbouring residences for assessing light trespass in public housing estates in Hong Kong
	Objective	To estimate the maximum background light level from residences
	Methodology	Computational simulation
	Equipment	Dialux
	Deliverables	A suggested value for subtraction from the required vertical illuminance on windows for assessing the unavoidable light trespass

8.	Project Title	Smart films on façade glazing for effective daylighting control
	Objective	To explore the feasibility of applying smart films on façade glazing to effectively control the amount of daylight
	Methodology	Experimental measurement
	Equipment	Lux meter
	Deliverables	A performance evaluation report on the applicability of smart films for daylighting control

9.	Project Title	Developing a smart light therapy cap for people with dementia
	Objective	To develop a smart light therapy cap for mitigating the negative conditions of the people with dementia with appropriate verification
	Methodology	Lab experiment, focus group study
	Equipment	OLED, Arduino
	Deliverables	A scientifically proven smart light therapy cap for people with dementia

10.	Project Title	Developing a scale model of a smart building for BSE education
	Objective	To develop a scale model with the wide use of sensors equipped with IoT
	Methodology	Lab experiment, survey and interview
	Equipment	Sensors, LoRa terminals, gateways, LEDs, panels
	Deliverables	A building model equipped with IoT to be used for future BSE education