BUILDING PERFORMANCE SIMULATION
ARCH-753 Fall 2017

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ASSIGNMENT 4

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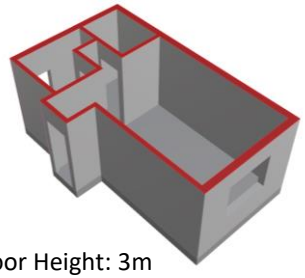
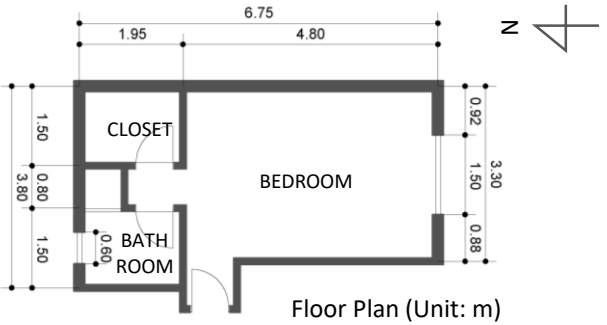
Illuminance Level Analysis

The room is deep and there is only one window on east side. Since sufficient sun light can't come inside through this window, the room is relatively dark and shaded except June.

My Room Plan & Modeling

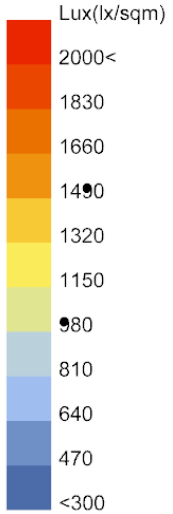


* Floor Height: 3m



Floor Plan (Unit: m)

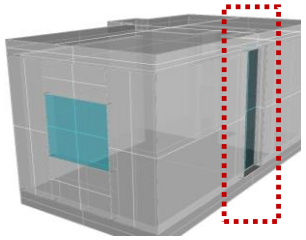
	9AM	12PM	3PM
21stMAR	<300LUX 43% >2000LUX 1%	<300LUX 0% >2000LUX 4%	<300LUX 0% >2000LUX 0%
21stJUN	<300LUX 0% >2000LUX 16%	<300LUX 0% >2000LUX 8%	<300LUX 0% >2000LUX 2%
21stDEC	<300LUX 73% >2000LUX 0%	<300LUX 13% >2000LUX 0%	<300LUX 95% >2000LUX 0%

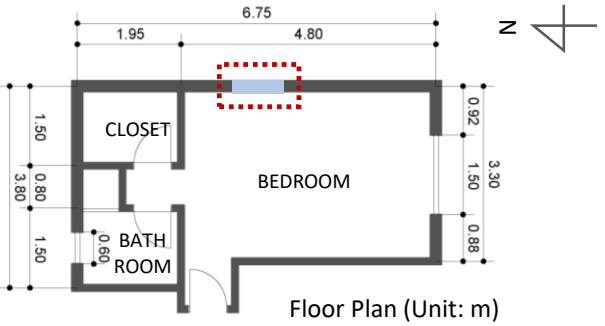


Illuminance Level Analysis – Developed Model 1

To provide sufficient sun light to this deep room, I add a window on north side. We can check the room has better condition before, but there is also overlit during summer.

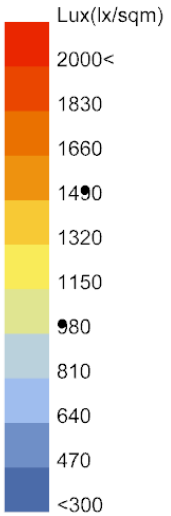
Add an Window (0.9mx3.0m) on north side





Floor Plan (Unit: m)

	9AM	12PM	3PM
21stMAR	<300LUX 8% >2000LUX 5%	<300LUX 0% >2000LUX 15%	<300LUX 0% >2000LUX 5%
21stJUN	<300LUX 0% >2000LUX 30%	<300LUX 0% >2000LUX 27%	<300LUX 0% >2000LUX 16%
21stDEC	<300LUX 20% >2000LUX 1%	<300LUX 4% >2000LUX 4%	<300LUX 15% >2000LUX 1%



Illuminance Level Analysis – Developed Model 2

To reduce overlit time, I try to add shading panel. The panel has both of horizontal and vertical panel. Moreover It does not only provide proficient sun light during winter and spring, but also reduce overlit during summer

Add Shading Panels