Week 7 *weekly submission*

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Task 1
Provide a summary of the main concepts that went through about solar radiation.

Solar Radiation

Solar radiation is basically the energy emitted by the Sun, electromagnetic energy in particular. Due to dispersion of molecular and particle scattering, and the absorption phenomena, the solar radiation that reaches the Earth's surface is attenuated both in spectral distribution and in total irradiance.

Diffuse & Direct Beam Solar Radiation

Diffuse and direct beam solar radiation are the two types of solar radiation that reaches the Earth's surface. Some of the sunlight that passes through the Earth's atmosphere reaches the surface of the Earth direct and undisturbed is called beam solar radiation. While in diffuse solar radiation, sunlight passes through the Earth's atmosphere and is absorbed, scattered, or reflected by dust, water vapor, clouds, pollutants, etc.

Solar Radiation Absorption

The solar radiation absorption is made possible by atmospheric components, the ozone, water, and carbon dioxide in particular. These atmospheric components absorb the incident radiation in specific wavelength bands. The stratospheric ozone absorbs all the ultraviolet component of the solar radiation wavelength less than 0.29.
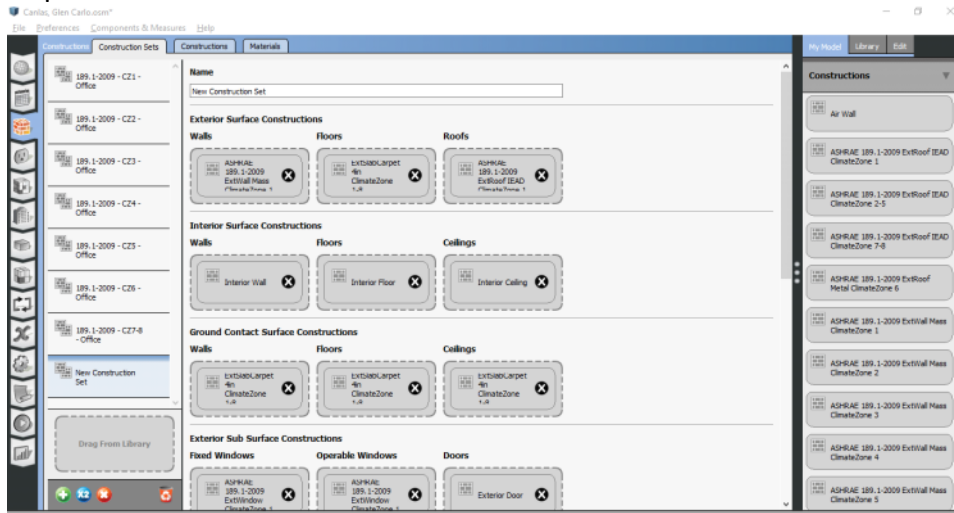
Solar Radiation Density

The extraterrestrial solar irradiance, the maximum yearly average solar radiation density, has a value of 1367 W/m^2
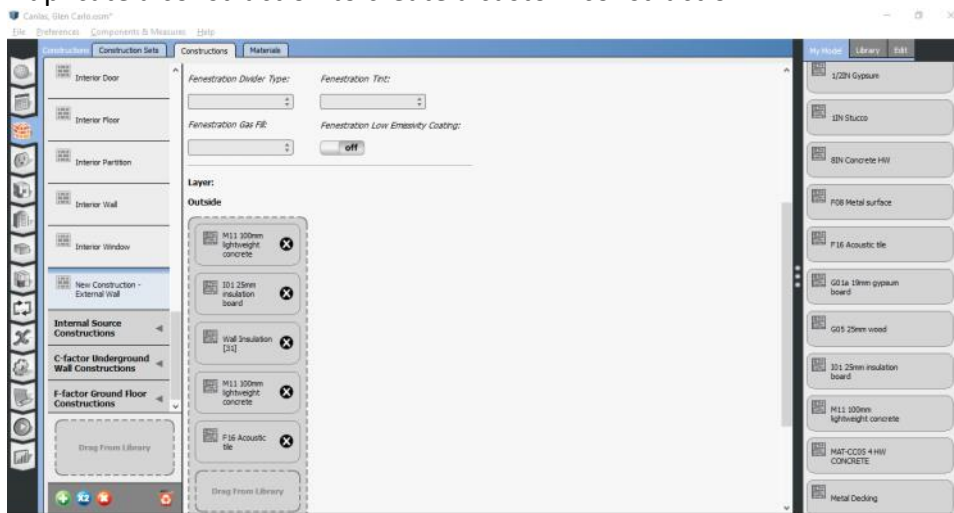
Task 2

You should create a pdf file with screenshots of all of the steps we went through in the second lesson on OpenStudio and explain briefly the reason behind each step.
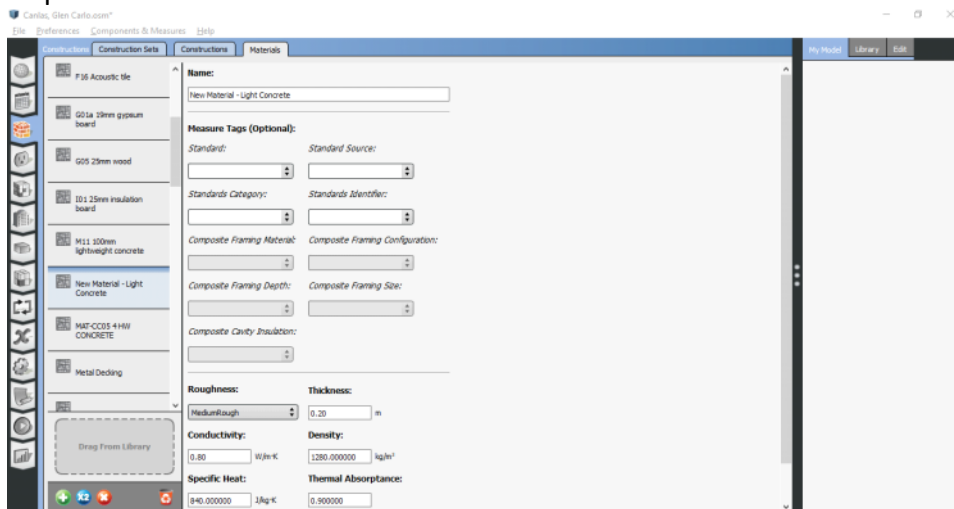
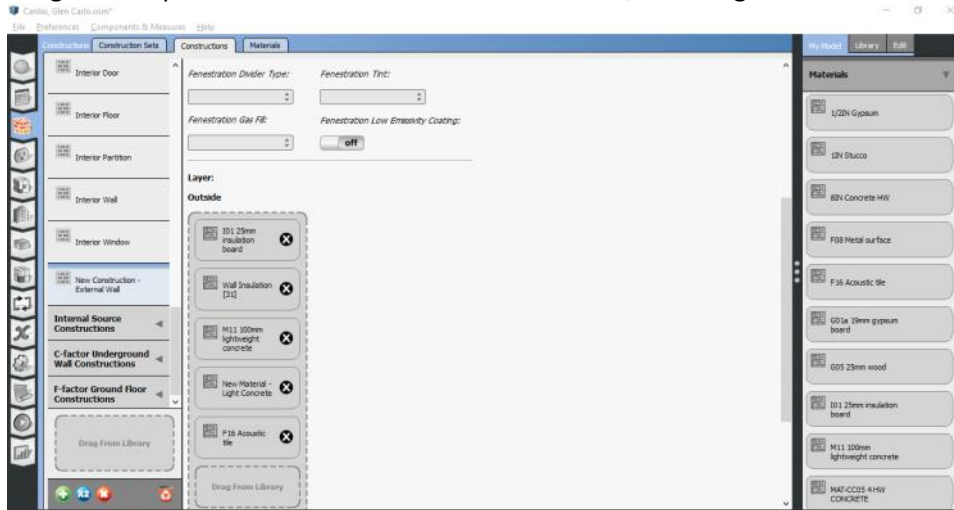1. Duplicate a construction set to create a custom construction set

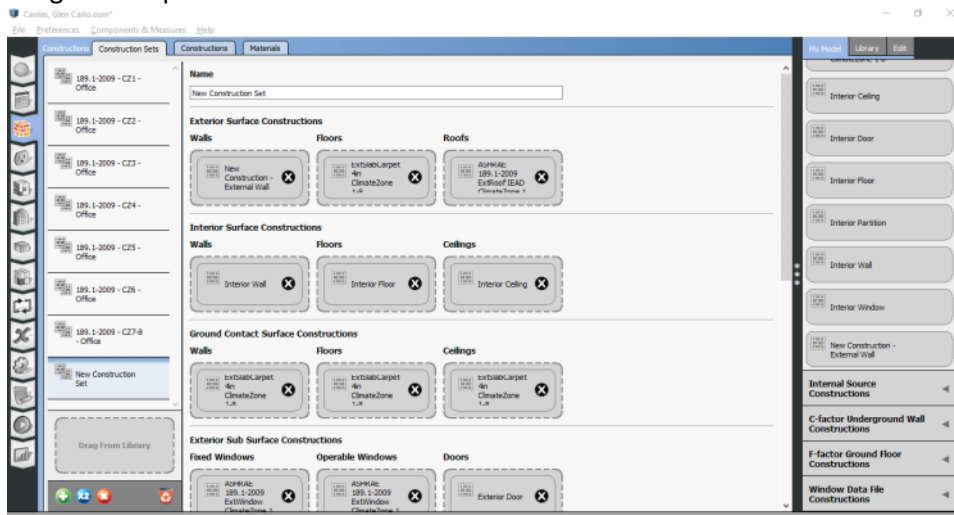2. Duplicate a construction to create a custom construction

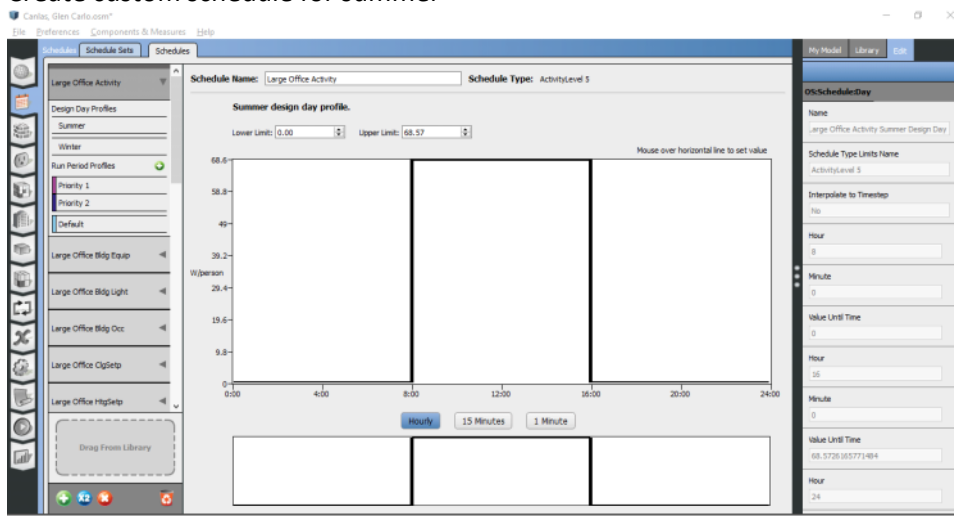3. Duplicate a material to create a custom material

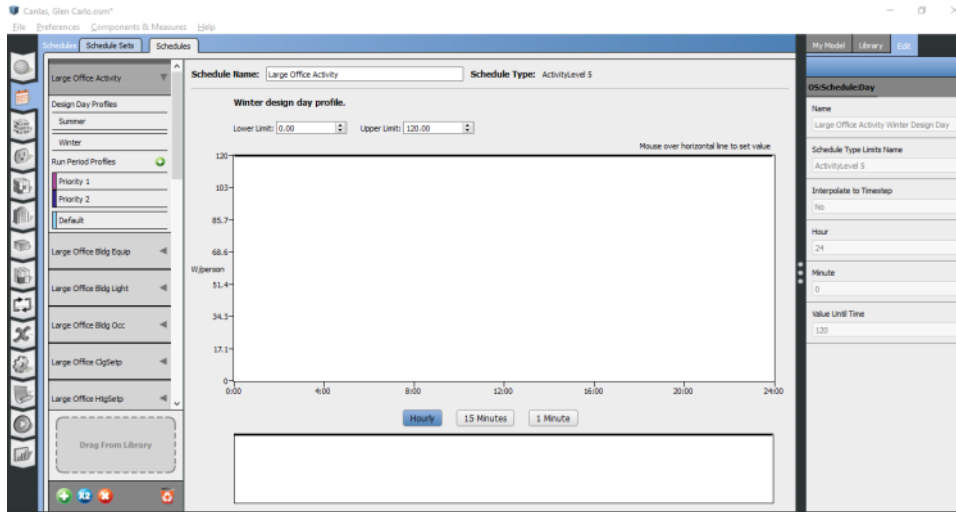4. Drag and drop materials to the custom construction, including the custom material

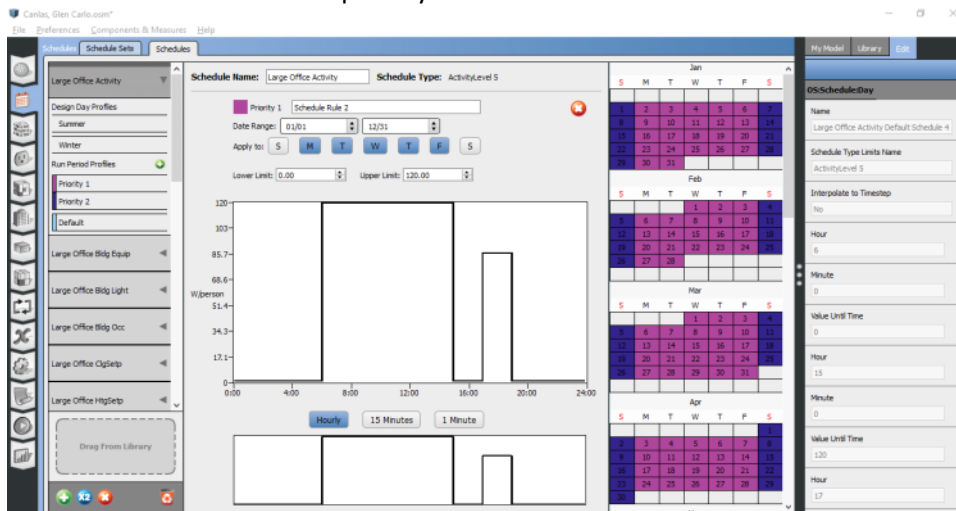5. Drag and drop the custom construction to the custom construction set

6. Create custom schedule for summer

7. Create custom schedule for winter

8. Create custom schedule for priority 1

9. Create custom schedule for priority 2