SUBMISSION 7

Week 7

Task 1 Provide a summary of the main concepts that went through about radiation (formulas are not needed)

The solar radiation is all the energy of the Sun that heats Earth, part of a large group of energy electromagnetic radiation spectrum. Solar radiation includes visible light, ultraviolet light, radio waves, X-rays and gamma rays.

The average radiant temperature is the temperature of the black envelope equivalent of a given surface, with which it would exchange the same radial flux exchanged with other surfaces.

The density of solar radiation is measured by the constant Gsc (measurement of the density of flow), measures the solar radiation per unit area. Gsc= 1367 W/mq.

The absorption of solar radiation is due in particular to the atmospheric components, ozone, and carbon dioxide, which absorb the radiation incident in absorption, thus changing its energy spectrum. The ozone of the stratosphere absorbs almost all the ultraviolet component of solar radiation.

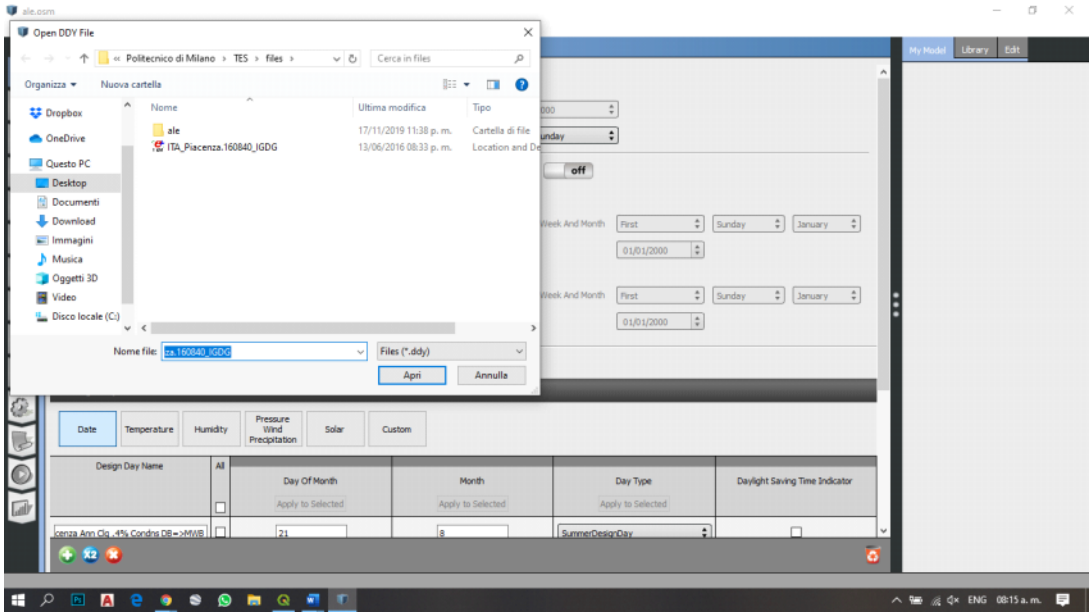
The radiation consists of electromagnetic waves that carry the energy. Electromagnetic radiation comes from the acceleration of electrical charges; at the molecular level, this is what happens objects heat up and their molecules vibrate stronger and stronger, causing the acceleration of electrical charges.

The Sun is a huge thermal reactor about 93 million kilometers away. In heat transfer by energy is carried by electromagnetic waves from a starting point to the space around it and does involve contact with matter. Other forms of heat transfer cannot produce any of the energy that arrives on Earth through the vacuum of space. The Sun's energy reaches the Earth through which can be demonstrated by simply standing outside and letting the sun's rays warm the face.

Every object around us is in continuous irradiation, unless its temperature is at absolute zero, at which point its molecules stop completely.

Task 2
Create a pdf file with screenshots of all of the steps we went through in the second lesson on Studio and explain briefly the reason behind the use of each step.

Data of Piacenza weather in OpenStudio


Open DDY File
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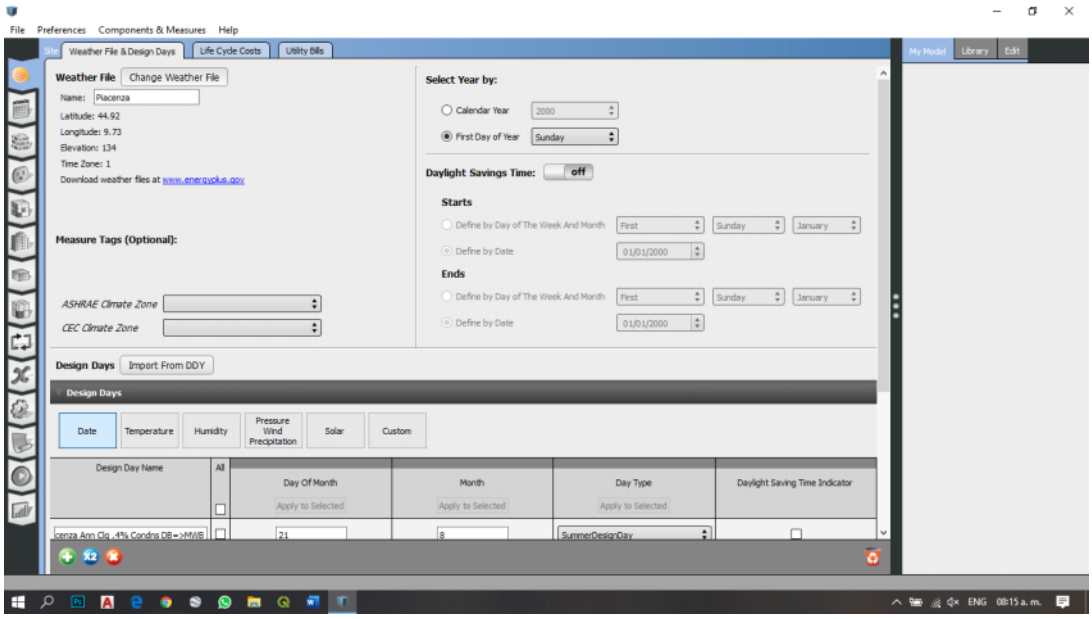
File
Preferences
Components & Measures
Help
Weather File
Change Weather File
Select Year by:
Daylight Savings Time:
Measure Tags (Optional):
Design Days
Import From DDY
Date
Temperature
Humidity
Solar
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Design Day Name
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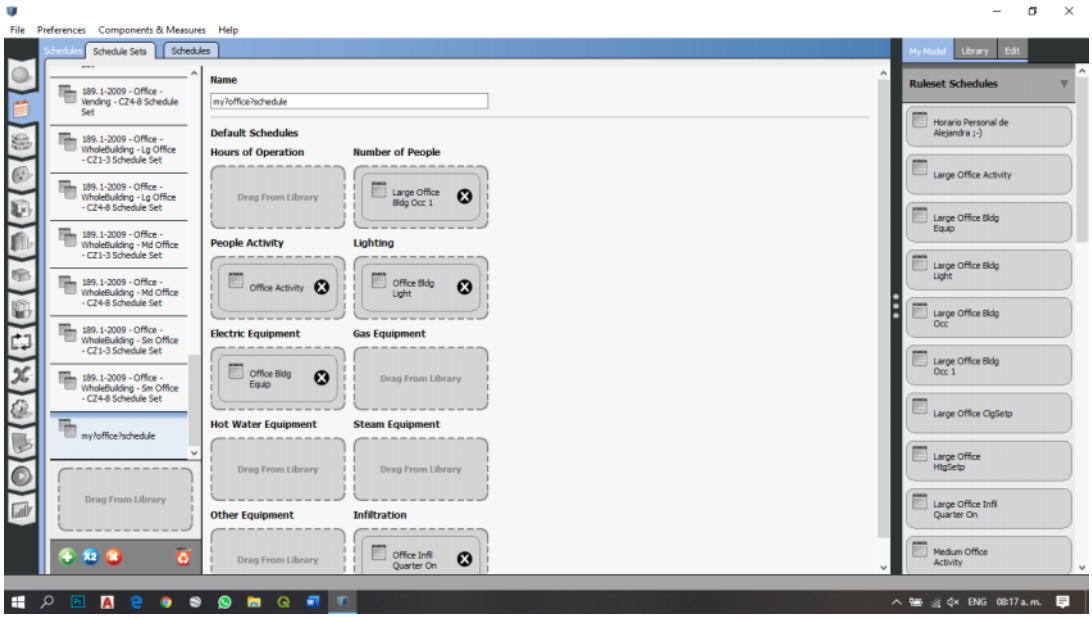
Month
Day Type
Daylight Saving Time Indicator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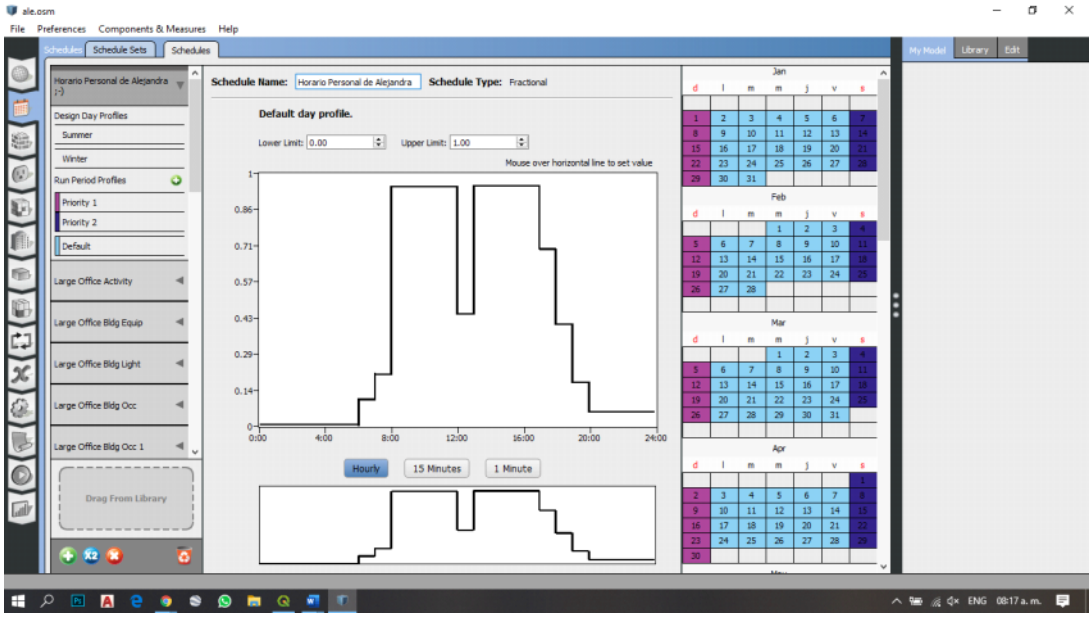
Preferences
Components & Measures
Help
Schedule Sets
Schedules
Name
Default Schedules
Hours of Operation
Number of People
People Activity
Lighting
Electric Equipment
Gas Equipment
Hot Water Equipment
Steam Equipment
Other Equipment
Infiltration
Ruleset Schedules


ale.osm
File Preferences Components & Measures Help
Schedules Schedule Sets Schedules
My Model Library Edit
Horario Personal de Alejandra :-)
Design Day Profiles
Summer
Winter
Run Period Profiles
Priority 1
Priority 2
Default
Large Office Activity
Large Office Bldg Equip
Large Office Bldg Light
Large Office Bldg Occ
Large Office Bldg Occ 1
Drag From Library
Schedule Name: Horario Personal de Alejandra
Schedule Type: Fractional
Default day profile.
Lower Limit: 0.00
Upper Limit: 1.00
Mouse over horizontal line to set value
1
0.86
0.71
0.57
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0.29
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0
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15 Minutes
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Jan
Feb
Mar
Apr
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