AST 301
Homework #2
Due Friday Sep. 19

1. At least once during the next two weeks go outside just after sunset and look for Venus, Mercury, Mars, and Jupiter.
Venus isn't too hard to find. It is the bright object low in the west soon after sunset.
Jupiter is even easier. It is the brightest object in the southern sky, about 45^{o} above the southern horizon.
Mercury and Mars are much harder. They are both just to the left of Venus and can only be seen for a short time about ½ hour after sunset. They are much fainter than Venus. Mercury is to the left and a bit lower than Venus. Mars is above Mercury. You will have to be in a place where you have a clear view down to the western horizon, and it will have to be clear out and not too hazy.
Write down the date, time and place of your observations. Also write down what the weather was like at that time and the names of anyone who was with you when you made the observations.
Describe what you saw, and make a sketch of what objects you saw on the horizon below Venus.
Say what you actually saw, not what Stellarium said you should see or what someone else saw.

2. At least four times over the next two weeks go outside in the evening and look for the Moon.
Write down the date, time, and weather during you observations and who was observing with you.
Make a sketch of the lit part of the Moon, showing its shape and orientation. Note in what direction you are facing when looking at the Moon and how high it is in the sky.
Describe the pattern of how the phases of the Moon relate to its position on different days. When is it up, and where in the sky is it when it is a crescent? When is it up, and where in the sky is it when it is half lit, or gibbous, or full? Explain this pattern with the Copernican model of the solar system.

Start these observations tonight! The weather may not stay so clear, and you need to make observations at different times of the month to see the pattern of the Moon's motion.