



Source: Kyle Denny

Partial Lunar Eclipse - November 18th/19th

Magnitude:	0.974
Eclipse Starts:	01:02 ET / 22:02 PT
Partial Phase Begins:	02:18 ET / 23:18 PT
Eclipse Maximum:	04:02 ET / 01:02 PT
Partial Phase Ends:	05:47 ET / 02:47 PT
Eclipse Ends:	07:03 ET / 04:03 PT
Total Duration:	6h 02m
Partial Eclipse Duration:	3h 28m
Constellation:	Taurus

November's partial eclipse can be seen by everyone on the North American continent, and with 97% of the lunar disc in shadow, it's almost as close to total as you can get. The downside? No matter where you live in the U.S. or Canada, you'll need to stay up late to see it.

The Moon enters the Earth's penumbra at 1:02 am ET on the 19th for those on the east coast, or 10:02 pm PT on the 18th for those on the west. You probably won't notice much change until around 2:18 am ET (11:18 pm PT) when the Moon enters the umbra and starts to take on a coppery tint. Maximum eclipse occurs at 4:02 am ET (1:02 am PT), close to the western border of Taurus, so be sure to look for the Pleiades nearby. The partial phase then ends an hour and 45 minutes later, with the entire eclipse ending at 7:03 am ET (4:03 am PT).

OUR NEAREST NEIGHBORS

Venus can still be seen after sunset this month, with a crescent Moon appearing to its right after sunset on the 7th. **Jupiter** and **Saturn** remain observable in the evening; the first quarter Moon passes Saturn on the 10th and then Jupiter the following night. **Neptune** is visible until the early hours, while **Uranus** reaches opposition on the 4th, making it observable throughout the night. You can still catch **Mercury** in the pre-dawn twilight for the first week of November; look for a thin, crescent Moon above it on the 3rd. Meanwhile, **Mars** returns to the morning sky during the second half of the month and may be glimpsed faint and low over the southeastern horizon shortly before dawn. Lastly, the **Moon** turns new on the 4th and is then full on the 19th.

M31 - The Andromeda Galaxy: If you live under dark skies, you'll be able to see our galactic neighbor with just your eyes. If not, almost any telescope will reveal a bright core and the dark dust lane that crosses its center.

M33 - The Triangulum Galaxy: Unlike M31, this galaxy can be tricky to observe due to its low surface brightness. Transparent skies, a low-powered eyepiece, and averted vision will help you to locate and study it.

NGC 457 - The Owl Cluster: This cluster can be detected with binoculars but is best seen with a telescope. The double star Phi Cassiopeiae marks the eyes of the owl, with the chest forming the densest area of the cluster.

The Leonid Meteor Shower - November 17th/18th: On any given year, you could expect to see about 15 shooting stars an hour under ideal conditions - unfortunately, this year the Moon is almost full and could drown out a number of the fainter meteors.

M31 - The Andromeda Galaxy



Source: Jason Ware

STELLAR CONCEPTS

Universal Time: While time zones make it possible for each country to have a means of recording time that's relevant to their location, it makes it impractical to list the specific times of a celestial event (eg, a lunar eclipse) for every applicable time zone. Therefore, Universal Time is used to communicate the times associated with an event to observers around the world. Universal Time, abbreviated as UT, is essentially Greenwich Mean Time and is equal to Zulu Time, which is used by the military. It's important to note that there is no daylight savings time for Universal Time, and any location that's currently observing daylight savings time would need to make the necessary adjustment.