

Astronomy Club of Asheville

March 2024 Highlight

A Deep Penumbral Lunar Eclipse on March 25th after midnight

This article and illustration are courtesy of the folks at [SKY & TELESCOPE](#)

PENUMBRAL ECLIPSES tend to get overlooked. But I'd encourage you to catch the one happening the night of March 24–25 for two reasons. First, solar and lunar eclipses always come in pairs separated by about two weeks. This particular event makes a delicious appetizer for the highly anticipated April 8th total solar eclipse. Second, despite the eclipse's penumbral designation, this will be a *deep* penumbral eclipse with Earth's shadow readily visible to the naked eye. In a partial or total lunar eclipse, the Moon dips into Earth's *umbra*, or inner shadow, where our planet's globe blocks direct sunlight from reaching the Moon. During a penumbral eclipse, the Moon treads through Earth's *penumbra*, or pale outer shadow, where varying amounts of sunlight dilute the shadow's darkness.

The Moon first touches the penumbra at 4:53 UT (12:53 a.m. EDT) on March 25th. Greatest eclipse occurs at 7:13 UT (3:13 a.m. EDT), when 96% of the Moon's disk will reside within Earth's outer shadow. So, so close to the umbra! Around the time of maximum, the Moon's southern hemisphere will appear obviously darkened, but you should be able to detect shading well before that, perhaps as early as 20 minutes into the eclipse. Watch for the first hint of shadow to shade the lower left portion of the Moon. The eclipse ends at 9:33 UT (5:33 a.m. EDT).

Although the timing of the event isn't especially favorable for East Coast and Midwest eclipse-watchers, farther west the eclipse takes place at a more reasonable time — starting at 9:53 p.m. PDT on the evening of the 24th.

Clubs might hold a public event (everyone likes a full Moon) with an informal competition to determine when the first hint of shading is detectable. Anytime we focus our attention on a new challenge we become more discerning observers.

And if you miss this event, you won't have to wait long for another chance. On September 18th there will be a shallow partial eclipse favoring the eastern half of the U.S. and Canada, and Central and South America. ***

