

# Night Sky Viewing at Widener University

## November 2019

### Sunrise & Sunset Times (EDT)

	Sunrise	Sunset
Begin Month	7:30 am	6:00 pm
End Month	7:02 am	4:37 pm

### Lunar Phases



### Naked Eye Planets in the Evening & Morning Sky this Month

**Venus** (in *Libra-Scorpius-Ophiuchus*): Venus continues to slowly but steadily increase its separation from the Sun following conjunction back in August. At the beginning of November, Venus sets around 7 pm EDT, or only about an hour after sunset, and may be difficult to locate low above the western horizon. By month's end, Venus sets a little less than two hours after the Sun, and can best be spotted about 30 minutes to an hour after sunset; it resembles a brilliant yellow star low in the west.

**Jupiter** (in *Ophiuchus-Sagittarius*): This November, Jupiter continues to burn brightly low in the southwest at nightfall. On the 1<sup>st</sup>, Jupiter sets around 8:30 pm EDT, which is nearly 2½ hours after the Sun, but this interval shrinks to less than 1½ hours on the 30<sup>th</sup>, when Jupiter sets at around 6 pm EST. Jupiter and Venus experience a close conjunction in the evening sky on November 24<sup>th</sup>. Jupiter's residence in the evening sky will come to an end when it reaches conjunction with the Sun in late December; it then swings into the morning sky at the start of 2020.

**Saturn** (in *Sagittarius*): As November opens, Saturn stands low in the southwest at nightfall; it resembles a moderately bright cream-colored star to the upper left of Jupiter. Saturn sets by around 10 pm EDT on the 1<sup>st</sup>, and a few minutes before 6:30 pm EST as the month closes out. Like its fellow gas giant planet Jupiter, Saturn's residence in the evening sky will soon come to an end, albeit a few weeks later.

**Mars** (in *Virgo-Libra*): Mars is now two months past its conjunction with the Sun, and it is becoming more easily visible in the pre-dawn sky. On the 1<sup>st</sup>, Mars is rising about 5:45 am, or a little over an hour and a half before sunrise. By month's end, Mars will be rising around 4:30 am EST, which is over 2½ hours before sunrise. Mars is still relatively faint, but it will gradually build in brightness over the next several months.

**Mercury** (in *Libra*): On the morning of November 11<sup>th</sup>, Mercury passes in front of the Sun, an event known as a transit. The event begins at 7:35 am EST and ends at 1:45 pm. In addition, Mercury will become readily visible in the early morning sky during the last two weeks of November, when it will rise around 1½ hours before the Sun.

**Leonid Meteor Shower**: Best visible during early mornings of November 16-17. Source: minute particles from Comet 55P/Tempel-Tuttle, whose dust trail the Earth will be passing through at that time. The meteors appear to emanate from the constellation Leo.

### Constellations & Bright Stars Visible Around 8 pm EDT

#### **Ursa Major**

Asterism Big Dipper, very low above N horizon

#### **Ursa Minor**

Asterism Little Dipper, w/ North Star *Polaris*, due N

**Summer Triangle** – halfway up in W, getting lower each night. Consists of three bright stars: *Vega* (in *Lyra* the Harp), *Altair* (in *Aquila* the Eagle), & *Deneb* (in *Cygnus* the Swan)

#### **Pisces Austrinus** – due S

Bright white star *Fomalhaut*

#### **Cetus** – up in SE

Bright stars *Diphda*, *Menkar*

#### **Pegasus (Great Square)** – high in S

Bright stars *Scheat*, *Markab*, *Algenib*

#### **Andromeda** – high in ESE, to left (E) of Pegasus

Bright stars *Alpheratz* (NE corner of Great Square), *Mirach*, *Almach*

#### **Aries** – up in ENE, above Cetus & below Andromeda

Bright stars *Hamal*, *Sheratan*

#### **Cassiopeia** – “W” high in NNE

Bright stars *Shedar*, *Caph*, *Ruchbah*

#### **Perseus** – up in NE, to lower right of Cassiopeia

Bright stars *Mirfak* and *Algol*

#### **Auriga** – low in NNE, rising

Bright star *Capella*

#### **Taurus** – low in ENE, rising

Bright star *Aldebaran*  
Star Clusters *Pleiades* & *Hyades*

For more information on the night sky, visit the Widener Observatory Stargazing website at [www.widener.edu/stargazing/](http://www.widener.edu/stargazing/). A set of free sky maps can be obtained at [www.skymaps.com/](http://www.skymaps.com/).