



# ASTROFILES

## Auburn Astronomical Society Newsletter

January 2024      Newsletter Editor — John Wingard — [jwin1048@gmail.com](mailto:jwin1048@gmail.com)

### Moon Phases

- February 2 — Last Quarter
- February 9 — New Moon
- February 16 — First Quarter
- February 24 — Full Moon
- March 3 — Last Quarter
- March 10 — New Moon
- March 17 — First Quarter
- March 25 — Full Moon

### News and upcoming activities

Apologies for the late newsletter this month but I've been pretty busy lately and I also wanted to wait so I could include coverage of the grand reopening of the Gayle Planetarium in Montgomery on January 27, 2024. In spite of not so nice weather that day, the attendance from the public was outstanding. Several AAS members were in attendance to take in the festivities and help out if needed. We got to meet Lee Tinker, the new "planetarium guy" and his family as well as several members of the Treasure Coast Astronomical Society in Florida who came up to help Lee with the reopening. The featured event was a showing of the planetarium show called "The Planets," produced by Jon Bell from the Hallstrom Planetarium in Ft. Pierce, FL. Jon was also present to introduce the program to the audience. Had the weather been suitable, the AAS members were prepared to set up solar scopes outside to provide views of the Sun, but alas, it was not meant to be that day! The AAS is looking forward to working with Lee and the planetarium on a regular basis in the future and it is great that this wonderful facility is now open once again to serve the community of Montgomery and the surrounding area. There is also a possibility of holding some of our club meetings at the planetarium in the future. Additional photos taken at the event follow on the next two pages.



### Stay in touch with us



<http://www.auburnastro.org>



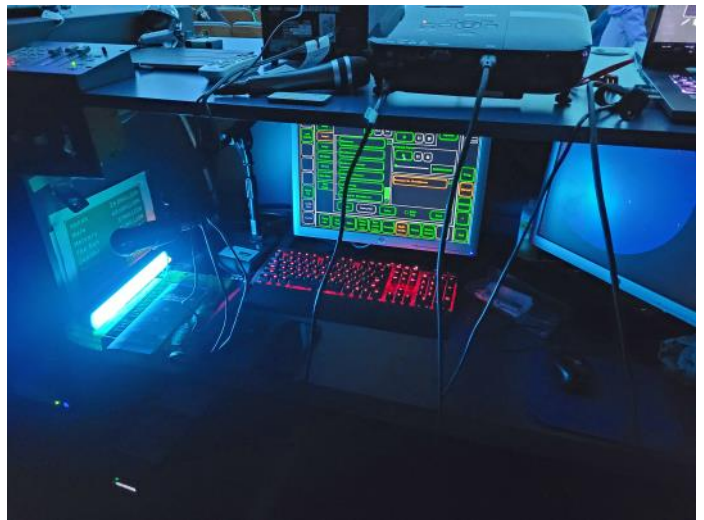
<https://www.facebook.com/groups/79864233515/>

The AAS has also been asked to assist with two additional events that are coming up. The first will be a stargaze at the Camp Hobbs Camporee on Saturday, February 17, 2024. Camp Hobbs is north of Prattville, AL. The second event is a request for us to participate in the annual Auburn CityFest at Keisel Park on Saturday, April 27, 2024 from 9:00 AM—4:00 PM CT. This will be part of the Children Imagination Station at the event. Since this is a daytime only event, we can provide solar-equipped scopes to provide views of the Sun. Email reminders with details about both of these events will be sent out to AAS members in advance of the actual dates.

# Grand Reopening of Gayle Planetarium in Montgomery — January 27, 2024



# Grand Reopening of Gayle Planetarium in Montgomery — January 27, 2024



Jon Bell (L) and Lee Tinker discuss the program “The Planets” with the audience after the showing.

The big 12.5” Dob that belongs to the AAS still has a prominent place inside the planetarium dome!



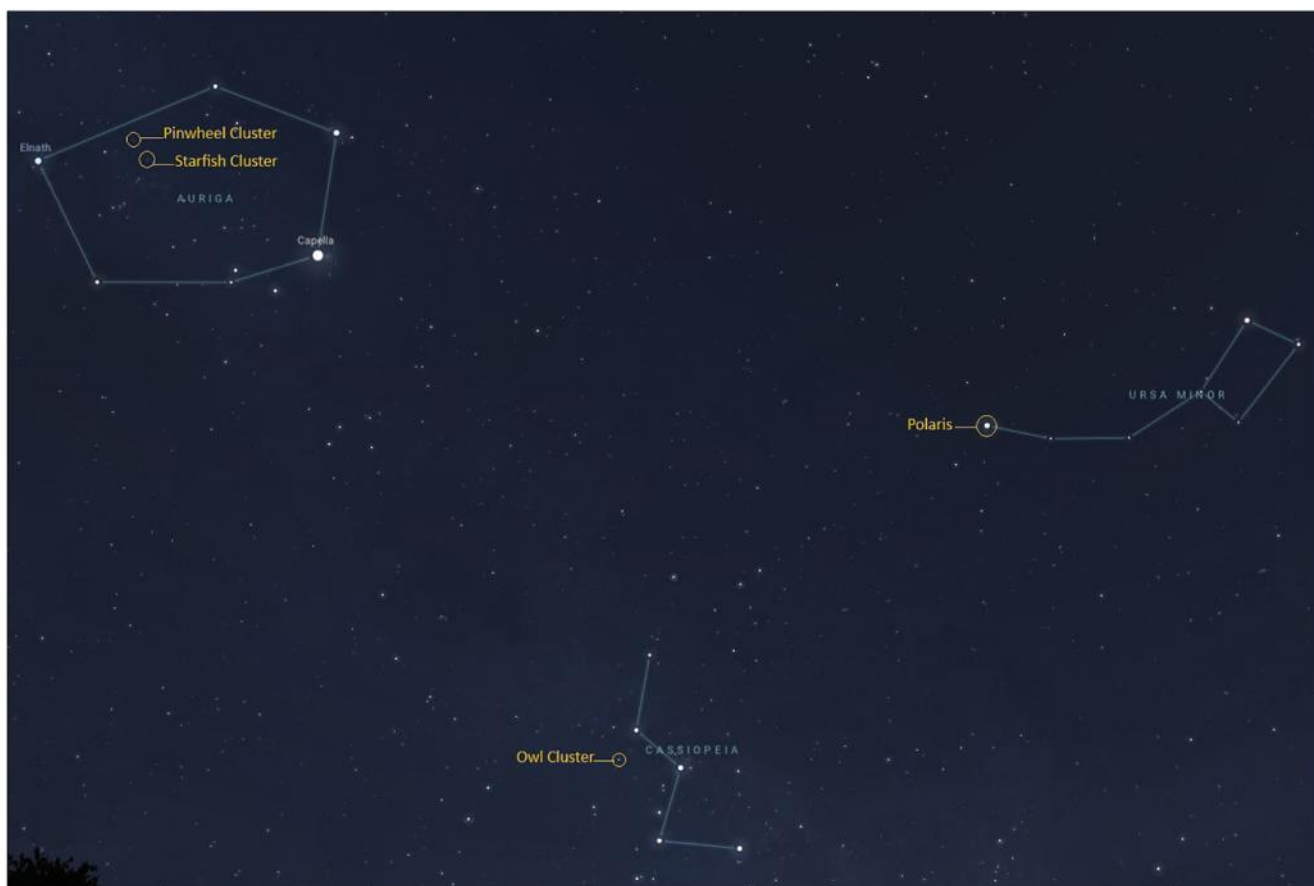
This article is distributed by NASA's Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [nightsky.jpl.nasa.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

## Constant Companions: Circumpolar Constellations, Part I

By Kat Troche

Winter in the northern hemisphere offers crisp, clear ([and cold!](#)) nights to stargazers, along with better views of several circumpolar constellations. What does circumpolar mean when referring to constellations? This word refers to constellations that surround the north and south celestial poles without ever falling below the horizon. Depending on your latitude, you will be able to see up to nine circumpolar constellations in the northern hemisphere. Today, we'll focus on three that have gems within: **Auriga**, **Cassiopeia**, and **Ursa Minor**. These objects can all be spotted with a pair of binoculars or a small to medium-sized telescope.

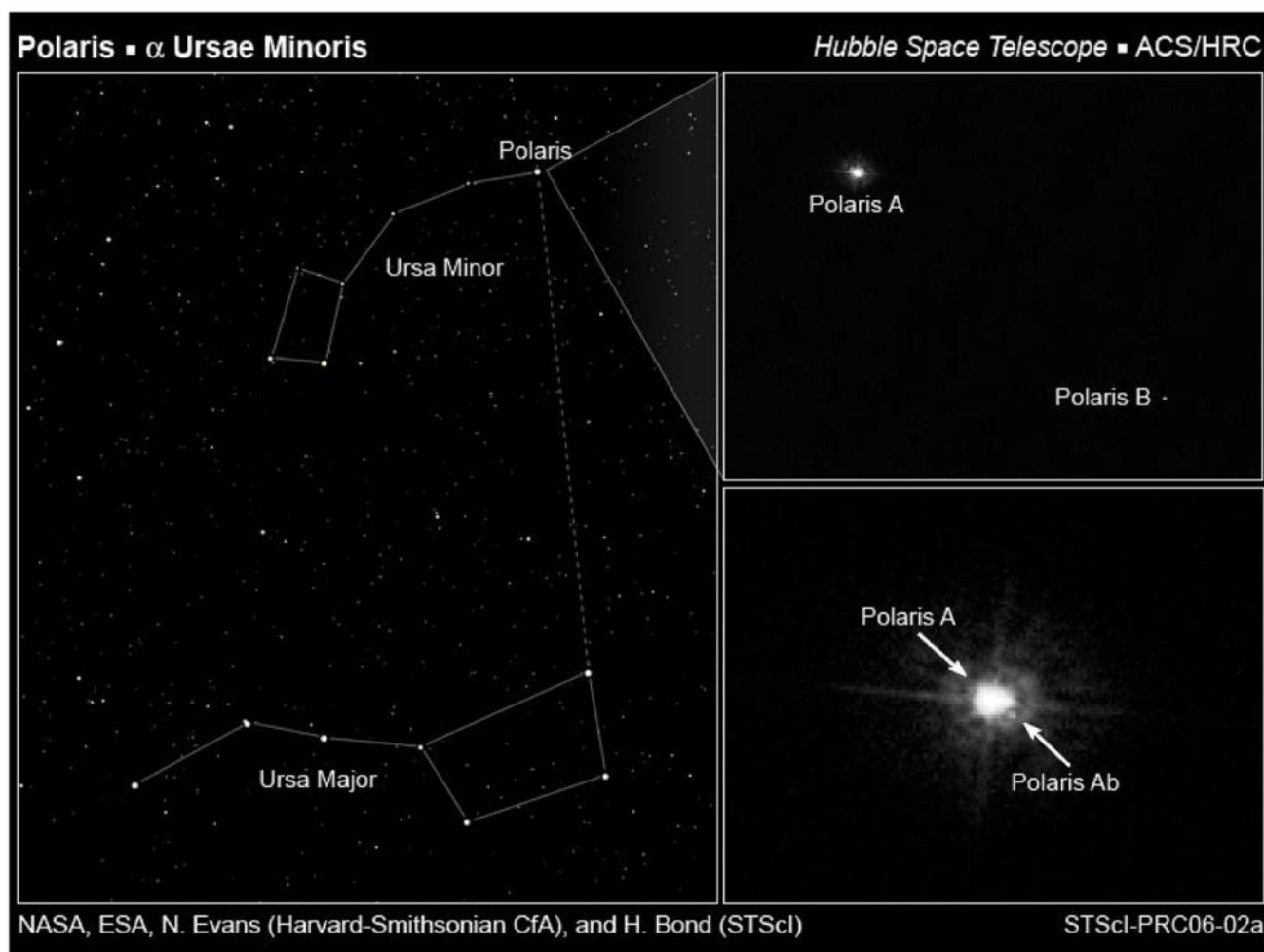


The counterclockwise circumpolar constellations Auriga, Cassiopeia, and Ursa Minor in the night sky, with four objects circled in yellow labeled: Pinwheel Cluster, Starfish Cluster, Owl Cluster, and Polaris.

Credit: Stellarium Web

- **The Pinwheel Cluster:** Located near the edge of Auriga, this open star cluster is easy to spot with a pair of binoculars or small telescope. At just 25 million years old, it contains no red giant stars and looks similar to the Pleiades. To find this, draw a line between the stars Elnath in Taurus and Menkalinan in Auriga. You will also find the **Starfish Cluster** nearby.

- **The Owl Cluster:** Located in the 'W' or 'M' shaped constellation Cassiopeia, is the open star cluster known as the **Owl Cluster**. Sometimes referred to as the E.T. Cluster or Dragonfly Cluster, this group of stars never sets below the horizon and can be spotted with binoculars or a small telescope.



A black and white image from the Hubble Telescope of the Polaris star system, showing three stars: Polaris A, Ab, and Polaris B.

Credit: NASA, ESA, N. Evans (Harvard-Smithsonian CfA), and H. Bond (STScI)

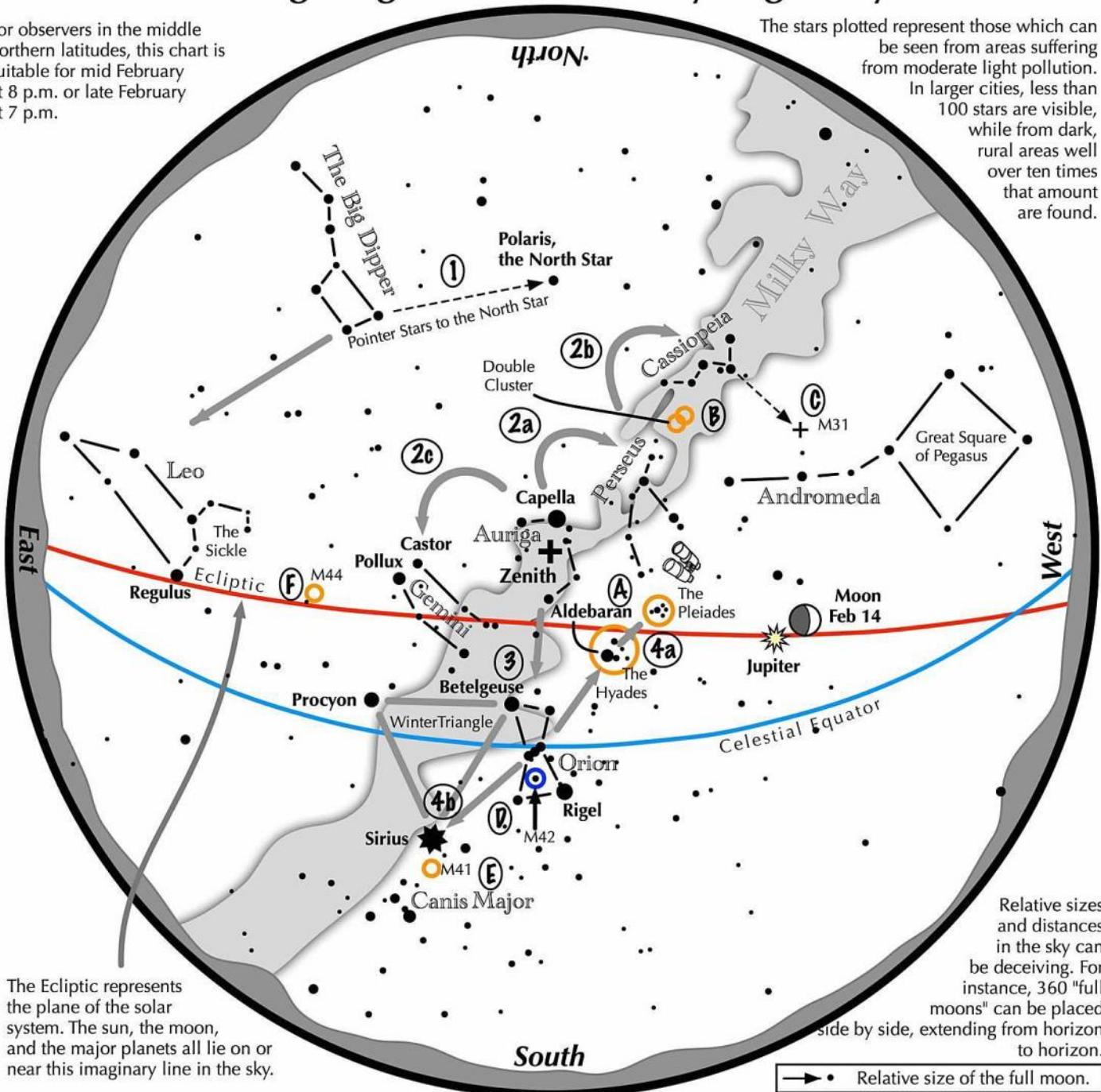
- **Polaris:** Did you know that [Polaris is a triple star system](#)? Look for the North Star on the edge of Ursa Minor, and with a medium-sized telescope, you should be able to separate two of the three stars. This star is also known as a [Cepheid variable star](#), meaning that it varies in brightness, temperature and diameter. It's the closest one of its kind to Earth, making it a great target for study and [conceptual art](#).

Up next, catch the King of the Planets before its gone for the season with our upcoming mid-month article on the [Night Sky Network](#) page through NASA's website!

# Navigating the mid February Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid February at 8 p.m. or late February at 7 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

## Navigating the February night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt stars, its bright red star Betelgeuse, and its bright blue-white star Rigel.
- 4 Use Orion's three Belt stars to point northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius, a member of the Winter Triangle.

### Binocular Highlights

- A: Examine the stars of two naked eye star clusters, the Pleiades and the Hyades.
- B: Between the "W" of Cassiopeia and Perseus lies the Double Cluster.
- C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
- D: M42 in Orion is a star forming nebula. E: Look south of Sirius for the star cluster M41. F: M44, a star cluster barely visible to the naked eye, lies southeast of Pollux.



# What's Up, Doc? †

## February 2024

Dr. Aaron B. Clevenson, Observatory Director, Insuperity Observatory

This document tells you what objects are visible this next month for many of the Astronomical League Clubs. If you are working on one of the more advanced club, then I assume that you are also probably tracking where your objects are all the time. This concentrates on the more common and starter level clubs. All time are **Central Time**.

### Naked-Eye Clubs

**Meteors** – any night, any time, anywhere, the darker the sky the better.

<u>Shower</u>	<u>Duration</u>	<u>Maximum</u>	<u>Type</u>
Aurigids	1/31 to 2/23	2/5 to 2/10	Minor
Alpha Centaurids	2/2 to 2/25	2/8 & 2/9	Minor
Beta Centaurids	2/2 to 2/25	2/8 & 2/9	Minor
Delta Leonids	2/5 to 3/19	2/22 & 2/23	Minor
Sigma Leonids	2/9 to 3/13	2/25 & 2/26	Minor
Capricornids-Sagittariids	1/13 to 2/28	1/30 to 2/3	DAYLIGHT
Chi Capricornids	1/29 to 2/28	2/13 & 2/14	DAYLIGHT

**Constellations, Northern Skies** – any night, any time, anywhere, the darker the sky the better.

Last Chance this cycle: Cepheus, Lacerta, Andromeda, Pisces, Cetus, Fornax.

Transit Camelopardis, Auriga, Taurus, Orion, Lepus, Columba, Caelum.

New arrivals: Ursa Major, Leo Minor, Leo, Sextans, Pyxis, Puppis.

### Binocular Clubs

**Binocular Messier** – Monthly highlights include:

Easy – 3, 34, 35, 36, 37, 38, 41, 42, 44, 45, 46, 47, 48, 50, 67, 93, 103.

Medium – 40, 49, 53, 63, 64, 78, 79, 81, 21, 94.

Hard – 1, 51, 65, 66, 68, 97, 101, 104, 106.

Big Binoculars – 58, 59, 60, 61, 84, 85, 86, 87, 88, 89, 90, 95, 96, 99, 100, 102, 105, 108, 109.

**Deep Sky Binocular** – Monthly highlights include:

3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42.

### Other Clubs

#### Messier

In addition to those listed under Binocular Messier, check out: 43, 76, 91, 98.

#### Caldwell

1, 2, 3, 5, 6, 7, 8, 10, 13, 14, 21, 23, 24, 25, 26, 29, 31, 32, 35, 36, 38, 39, 40, 41, 45, 46, 48, 49, 50, 52, 53, 54, 58, 59, 60, 61, 64, 71, 74, 79.

#### Double Star

5, 8, 11, 14, 16, 17, 18, 20, 23, 25, 27, 28, 29, 32, 34, 35, 39, 40, 42, 43, 45, 51, 52, 53, 54, 55, 56, 57, 59, 65, 67, 68, 69, 70, 71, 73, 74, 75, 76, 78, 79, 80, 81, 82, 83, 85, 92, 95, 98, 99, 100.

## Other Clubs (of the Solar System)

**Planetary (Planets and Dwarf Planets)** – These are the tasks that can be done this month:

Venus, Mars, Ceres, and Pluto will not be visible during the evening hours. They are morning stars or too close to the sun.

Sun – Any clear day is a good time to get those sunspots. And they are on the rise...

The Sun sets at 1810 mid-month.

Moon:

The Maria requirement can be done any time the moon is visible. Look before 2/2 or after 2/16 for the fullest views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 2/15 and 2/16.

The Scarps requirement is best done on 2/17.

Occultations occur all the time, the bright ones can be found on the internet. Objects disappear on the East side of the moon.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid as long as it is visible in the nighttime sky.

Mercury is in Capricornus and sets at 1717 mid-month.

Jupiter is in Aries and sets at 2327 mid-month.

Saturn is in Aquarius and sets at 1856 mid-month.

Uranus is in Aries and is up all evening mid-month.

Neptune is in Pisces and sets at 2019 mid-month.

## Lunar

Key timings are indicated below (all times are Central Time):

New, 2/09 @ 16:59      4 days, 2/13      7 days, 2/16      10 days, 2/19      14 days, 2/23

Old moon in new moons arms – before 1659 on 2/12, ~10 % illuminated. (72 hr > New)

New moon in old moons arms – after 1659 on 2/6, ~10 % illuminated. (72 hr < New)

Waxing Crescent – before 1659 on 2/11, ~4 % illuminated. (48 hr > New)

Waning Crescent – after 1659 on 2/7, ~4 % illuminated. (48 hr < New)

## Major Astronomical Events:

2/10 – Lunar Perigee

2/13 – Moon at Ascending Node

2/21 – Lyrid Meteor Shower

2/22 – Venus / Mars Conjunction (0.6')

2/25 – Lunar Apogee

2/27 – Moon at Descending Node

2/28 – Mercury at Superior Conjunction

Although many Astronomical League Observing Programs are not detailed in this **“What’s Up Doc?”** handout, you can get information on many of their objects by using the **“What’s Up Tonight, Doc?”** spreadsheet (version 4.1). To get your copy, talk to the Doc, Aaron Clevenson, by sending an email to [aaron@clevenson.org](mailto:aaron@clevenson.org). It is also available on the North Houston Astronomy Club website ([www.astronomyclub.org](http://www.astronomyclub.org)).

† - “What’s Up Doc?” is used with permission from Warner Bros. Entertainment Inc.

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**Insperty Observatory, 2505 S. Houston Avenue, Humble, TX: [www.humbleisd.net/observatory](http://www.humbleisd.net/observatory)**





# Auburn Astronomical Society

## Application for Membership

To insure that our records are accurate, please print information clearly

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ Date of Application: \_\_\_\_/\_\_\_\_/\_\_\_\_

E-Mail: \_\_\_\_\_

Telescopes owned (if any): \_\_\_\_\_

Area(s) of special interest: \_\_\_\_\_

Enclose \$20.00 for regular annual membership, payable in January. *Full-time* student membership is \$10.00.

For NEW members joining after January, refer to the prorated dues table below for the month you are joining:

Jan \$20.00	Feb \$18.33	Mar \$16.66	Apr \$14.99	May \$13.33	Jun \$11.66
Jul \$10.00	Aug \$8.33	Sep \$6.66	Oct \$4.99	Nov \$2.33	Dec \$1.66

New—Just Joining

Renewal

Please make checks payable to: Auburn Astronomical Society and return this application with your payment to:

Auburn Astronomical Society  
c/o John Wingard, Sec/Treasurer  
5 Wexton Ct.  
Columbus, GA 31907

*Note: At this time we do not have an  
option for online payment of dues.*

The Auburn Astronomical Society is a member of the Astronomical League, the national organization representing astronomy clubs throughout the United States. As a club benefit, paid members of the Auburn Astronomical Society are eligible to received quarterly issues of *The Reflector*, the official publication of the Astronomical League. It will be mailed to the address that you provided above but could be delayed somewhat until their mailing lists are updated.

For additional information about our club, please go to our website [www.auburnastro.org](http://www.auburnastro.org) . You can also follow us on our Facebook page. Just search for "Auburn Astronomical Society."