2025 Novice Astronomy Class Syllabus

January 3

Messier Objects

- Seasonal variation
- Historical background
- List of 110 objects
- Type of objects
- When and where to look
- Useful print and digital resources

Hands-on: Orbits and their consequences

February 7

Solar System Series: Our Sun

- Birth of a star
- Life cycle
- Characteristics
- Fusion
- Photosphere
- Atmosphere & space weather
- Solar research
- Safely observing our Sun

Hands-on: Sun/Moon size relationship

March 7

The Basics for a Night of Visual Observing

- Locating an observing location
- Have a goal and observing list
- Things you need
- Dark adaptation
- Preserving your night vision
- Locating north
- Getting acquainted with the sky
- Locating bright stars & using a planisphere
- Measuring distance
- Including binoculars

Hands-on: Make your own planisphere

April 4

Solar System Series: Mercury

- Planet formation
- Planet by the numbers
- Surface features
- Atmosphere
- Natural satellites
- Exploration
- Observing opportunities

Hands-on: Distance scale for terrestrial planets

May 2

Planetarium Software: Stellarium 101

- Locating & downloading
- Configuring Stellarium
- Using the menus
- Search function
- Changing the date & time
- Simulating astronomical events
- Creating an observing list

Hands-on: Making a supernova

June 6

Solar System Series: Venus

- Planet formation
- Planet by the numbers
- Surface features
- Atmosphere
- Natural satellites
- Exploration
- Observing opportunities

Hands-on: Making a black hole

September 5

The Magnitude Scale

- Understanding the magnitude scale
- Limiting visual magnitude
- Apparent magnitude
- Absolute magnitude
- Sky conditions
- Averted vision
- Estimating star magnitude

Hands-on: A Universe without supernovae

October 3

Solar System Series: Earth & Moon

- Planet formation
- Planet by the numbers
- Surface features
- Atmosphere
- Natural satellites
- Exploration
- Observing opportunities

Hands-on: Differentiation

November 7

Sky Coordinates

- Reference lines: Meridian, Celestial Equator, Ecliptic
- Universal time
- Coordinate systems: Altitude & Azimuth; Right Ascension & Declination

Hands-on: Using a star atlas

December 5

Solar System Series: Mars

- Planet formation
- Planet by the numbers
- Surface features
- Atmosphere
- Natural satellites
- Exploration
- Observing opportunities

Hands-on: ET phone home: Is anyone out there?