

# Night Labs

Spring 2016

Astronomy 211

SJU Observatory

## Lab Instructor:

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Office Hour: 10:00 A.M. MWF  
Observatory Phone: 363-3196

Three night labs at the St. John's Observatory are required for astronomy students. Generally each lab begins at 8:15 or 9:30 on a Monday or Wednesday evening. However because of increasing daylight, the third lab will be one hour later (i.e., start at 9:15 or 10:30). The night labs meet as scheduled regardless of weather conditions. If the sky is clear we will be outside for an hour in the cold: *dress accordingly!* There are no bathrooms or water at the observatory: *plan accordingly!* Note also that food and liquids are not allowed in the observatory.

The observatory is about 0.2 miles south of Emmaus Hall: just south of the St. John's Cemetery on the west side of CR 159. A sign on 159 warns "no shoulder" a block before the gated entrance to the cemetery's parking lot. The observatory is a small flat-topped building in the apple orchard. No obvious sign announces its location: it is very easy to miss. A map on the class web site displays its location. I strongly suggest you find it in daylight well before your lab period, as missed labs generally cannot be made up.

Bring your handouts (Star Finder, SC001, etc.) to lab. Also bring a *pencil* to lab to record your lab work. (Pens should not be used in lab.)

### 1. Backyard Astronomy with the Unaided Eye

Learn the bright star names. Learn constellation patterns and names. Use the Star Finder to find stars, constellations, and naked eye planets. The constellation-hop technique. The star brightness system. Measure the separation of stars in the sky.

### 2. Star Atlas & Binoculars

Learn about deep-sky objects such as clusters, nebulae, and galaxies. Use binoculars together with Sky Atlas 2000.0 by Wil Trion to find objects invisible to the unaided eye. The star-hop technique.

### 3. Observe Deep-Sky Objects or Retrograde Motion

Observe deep-sky objects with binoculars and telescope. Why do planets for a brief period of time appear to move "backward" in their motion through the constellations?

## Lab Sign-up:

*During the next class period you must sign up for a specific lab group.* Compare your schedule with the lab times listed below. Mark those which do not conflict with your other activities. Mark on this sheet the lab you select and then retain this sheet as a reminder. If a schedule conflict arises later, you may arrange a lab exchange with another student. Be sure to *report the switch to me.* Otherwise missed labs cannot be made up. If labs are a problem, contact me *before* the next class.

Group 1	Mon 8:15–9:15 P.M.	Jan 25, Feb 29, Apr 4 <sup>†</sup>
Group 2	Wed 8:15–9:15 P.M.	Jan 27, Mar 2, Apr 6 <sup>†</sup>
Group 3	Wed 9:30–10:30 P.M.	Jan 27, Mar 2, Apr 6 <sup>†</sup>

<sup>†</sup> Recall third labs start one hour later (i.e., 9:15 or 10:30)!