

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## **Stellar Astronomy**

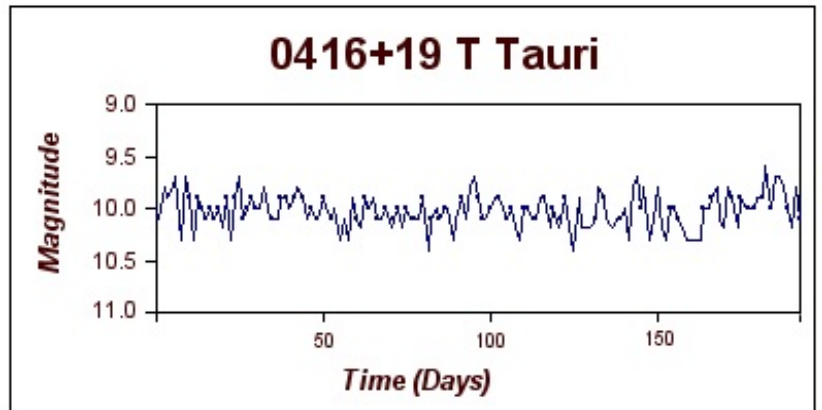
### **Stellar Naming Systems Lab**

#### ***Part 1***

1. Scorpius is a prominent Summer constellation and one of the few that many find easy to envision the figure it represents (the scorpion). Its alpha and beta stars are both well known. Find their proper names and indicate what their complete spectral classes say about each of them.
  
  
  
  
  
  
  
  
  
  
2. What does the "002765" mean in SAO 002765 in terms of where the star is located in the night sky?
  
  
  
  
  
  
  
  
  
  
3. Provide three astronomical facts about delta Leo.
  
  
  
  
  
  
  
  
  
  
4. What star is being described by Dec.  $+89^{\circ} 15' 51''$  And RA  $02^{\text{h}} 31^{\text{m}} 48.7^{\text{s}}$ ?
  
  
  
  
  
  
  
  
  
  
5. Locate the star 16 Draconis. Once you've located it, sketch approximately where it lies with reference to the constellation figure and identify it by either its HD, SAO or GSC identifier.

5. The star Sirius, the brightest star in the northern hemisphere, has a classification of *BD-16 1591* (among others). Describe what this means about its position on the celestial sphere.

6. Look at the magnitude chart for the star below. What does the nomenclature of the star reveal about the type of star this object is? In addition, is this characteristic of the star a relatively new discovery or have we known about it for a long time? Support your answer based on its *name* alone. Do not conduct additional research as this will lead you astray.



7. Using a separate source, identify the following Messier objects by name, what constellation they are located in *and the specific type of object* (e.g. *type of galaxy, type of nebula, etc.*).

M1

M8

M31

M45

8. The star V404 Cygni is of immense importance to astronomers. *Sketch* the constellation figure where it can be found (along with its approximate position with reference to the figure) and state its importance.

## ***Part 2***

Now that you have a better idea of how astronomical objects are named, this exercise will put all of those lists together using the constellation Ursa Major as an example.

### **Instructions**

Using the constellation map on the back of this sheet, identify the following features and/or objects.

1. Identify all RA/Dec lines.
2. Identify the named stars that constitute the “Dipper” of the constellation. Also ID these stars by their Flamsteed and Bayer (Greek letter) designation. Finally, include the spectral class and type (main sequence, giant, etc.) of each star.
3. Identify the lowest and highest Flamsteed numbered star in the constellation.
4. Identify the alpha, beta, gamma and delta stars of the constellation.
5. Identify any Messier objects by their number and name and type of object (galaxy, nebula, cluster).
6. Identify any other designations for the alpha and beta stars of Ursa Major from catalogs included in the reading packet.

