SURFACE OF THE MOON
Astronomy 121 - Version 2.0

Instructions: Please fill in the following forms and data sheets, and hand this in as your lab. Any additional sheets you provide should be securely attached. If you have any questions please ask the teaching assistant on duty.

Name: _____

ID Number: _____

Date and Time Completed: _____

Instructor: _____

Grade and Comments: _____

Please sign the following special pledge:

On my honor as a student, the work I am submitting here is entirely my own. I have not collaborated with or received help in any way from any other person on this laboratory (except those officially designated by the Astronomy Department). I understand that collaboration in any form would be a serious honor violation, would be considered reprehensible by the academic standards in force in this course, and will immediately be brought to the attention of the Honor Committee.

(signature)_____ (date)_____

NAME: _____ ID Number: _____ Grade: _____

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To do this lab, read through each section to understand the purpose and specific instructions, then find objects, make measurements, etc. as required and fill in the blanks ON THE ANSWER SHEET provided.

1 SURFACE FEATURES

In a telescope or on photographs, the Moon displays a vast amount of detail. Thousands of craters large and small are visible, for example. It would be impossible to consider each of them on a one-at-a-time basis. To make things easier, we group them into categories of similar appearing objects. We can then study and compare the properties of a small number of types instead of an immense number of individual objects. In this section you will study the various categories or classes into which lunar features have been divided. For each type of feature, an example is given and you are to find one or two additional members of the class. You will be using photos 1, 2, and 3 of the full Moon, first quarter, and third quarter.

You will be asked to locate objects on the photos. The picture area is surrounded by a border, use a ruler to measure the distance in **centimeters** from the **left inside** border of the picture area over to the center of an object, and from the **bottom inside** border up to the center of an object. Report its position as a group of numbers: **(photo number: over, up)**. Accuracy to the nearest millimeter is sufficient.

First look at photo 1; the full Moon. The directions of north, south, east, and west on the Moon are marked. Notice how the Moon shows dark areas, the "seas" or **maria** (singular: mare) and lighter areas the **highlands**.

1) Which type of area is smoother in appearance?

2) Which has more craters?

3) Which area of the Moon is predominantly highlands with no maria? (north, south, east, west, central, etc.)

The highlands are the oldest region of the lunar surface, still showing the effects of intense meteor bombardment from four billion years ago.

Next, look at the maria. These were originally immense craters or basins. After the formation of the basins, radioactive decay heated the interior of the Moon to the melting point and lava flowed up through the fissures and out onto the surface. This lava filled the basins and cooled, forming the mare surface.