Using the TU 0.41m telescope

1. Familiarize yourself with the mount and drive information on the astro wiki, also on the department “O” drive in the “Telescope” folder.
2. **The most important button on the keypad is the “Stop” button.**
3. The “Menu” button will take you up one level. Keep pushing it to get back to the main menu.
4. **Make sure you move chairs, ladders, steps, and people to the side of the dome before moving the telescope. Watch the wires during every slew—make sure they run free.**
5. The mount design prevents observations north of about 75o declination.
6. Let Dr. Storrs know when you want to use the telescope. If appropriate, give him an observation plan including objects to be observed, instruments to be used, flux information and estimates of exposure times, and calibration data necessary.
7. Schedule your observing sessions—note weather conditions are variable. Make sure you have an “observing buddy” along—**nobody should use the telescope by themselves!**
   1. Follow Dr. Storrs on twitter (AlexStorrs1) for last minute updates on telescope use.
8. Make sure you know how to use your instrument. Manuals (if available) should be in the desk in the planetarium or in the observatory dome, and on the astro wiki and in the department “O” drive in the “Telescope” folder.
9. When you unlock the observatory door, stand behind it in case you disturb some wasps. These will fly out the door and sting you if you’re standing in front of the opening.
10. Turn on the red lights (switch to your left) and check to make sure the instrument you need is installed.
11. Open the dome slit. An extender bar is on the ledge over the door if you have trouble moving the crank.
12. Turn on the power strip on the pier. The telescope fans should come on.
13. If the power doesn’t come on, check the outlet to see if the GFI breaker has tripped.
14. Check the control keypad and make sure selection 6 (“button rate”) is set to 600.
15. Push “6” repeatedly to cycle through the choices.
16. Press the “S” button to slew the telescope south so you can reach the telescope cover.
17. **Watch the wires during every slew—make sure they run free.**
18. Take off the mirror cover and the cover on the finder scope.
19. Select “1” on the keypad, then “5”, and use the “Prev” and “Next” keys to select a bright star which you know is above the horizon.
20. Once you have selected the star, you have to press the “Goto” key to start the slew.
21. **Watch the wires during every slew—make sure they run free.**
22. Keep well away from the telescope and **keep your finger over the “Stop” button** in case the telescope decides to do something funny.
23. If you have to “Stop” the slew, use the NSEW buttons to point to your star.
24. Center the star on the finderscope crosshairs using the directional buttons. Then center the star in the instrument field of view.
    1. You can get back to the main menu by pushing the “Menu” button repeatedly.
    2. You should reduce the “button speed” (item 6 on the main keypad menu) to fine tune the pointing—push “6” repeatedly to cycle through the choices. See step 9.
25. Once the star is centered, push the “RA DEC Rev” button at the bottom right of the keypad, while in the keypad “Object” window. Select “9” to “sync” to this star’s position—see the manual.
26. Repeat for another star.
27. You are ready to start observing.
28. Use the “Objects” (item “1” on the main keypad menu) to slew to a bright star near your target.
29. Center the star in the instrument and “sync” to it as in steps 12 and 13.
30. Offset to your target—you may have to “star hop” using the finder.
31. When you’re through:
32. Shut off the instrument(s)—start by turning off the temperature control of the CCD.
33. Slew the telescope to point south on the meridian.
34. Put the cover on the main telescope and on the finder.
35. Check to **make sure the cross hair light on the finder is turned off**.
36. Slew the telescope to point up.
37. Turn off the power strip.
38. Close the slit.
39. Grab your stuff, check to make sure the power is off and covers are on.
40. Turn out the lights and lock the door.

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