Space Unit Review Study Guide

Know and be able to apply frames of reference

Know the difference between altitude and azimuth co-ordinates

Know the features of the geocentric and heliocentric models of the universe

Be able to compare the different models of the universe

Understand what an epicycle is and why they were needed

Understand the differences between the refracting, reflecting and combination telescopes.

Know what an ellipse is

Know what Universal gravitation meant for planetary orbits

Know the people and what they did: Aristotle, Copernicus and Kepler

Types of spectra

Sources of spectra – see pg 377

Diffraction gratings and Purpose of spectroscopy in terms of space exploration

Be able to identify elements in a mystery star

Doppler effect, Red-shift, blue-shift

Triangulation technique and why Baseline is important

Adaptive optics and why they are necessary

Effect of combining telescopes on resolution

AU, Light year

How do you triangulate? What do you need? How does triangulation improve?

Radio wave telescopes advantages and disadvantages

Interferometry

Very long baseline interferometry

Know the difference between a regular and a staged rocket

Payload, CCD’s

Know what gravitational assist is and what we can use it for

Understand how rockets move

Know the difference between natural and artificial satellites

Know the differences between low Earth orbit and geosynchronous orbit

Know which type of orbit is used for which type of satellite

Be able to identify remote sensing and some applications

GPS, Know the parts of a rocket

Know the advantages and disadvantages of solid and liquid fuel

Know the order of the planets from the sun

Inner and outer planets

Know the relative size of the planets, the moon and the sun

Solar wind and other space dangers

Know what the sun is made of

Know the relative years (orbital period) of the planets, Know which planets orbit the other way

Know the basic composition of the planets and their atmospheres

Know distinguishing features about the planets (ex. Saturn’s rings)

Know the major players in the history of people in space

Understand how the space race was influenced by the cold war

Know why the space shuttle is special

The Apollo missions, Microgravity, Differences in American/Soviet Air Systems Canadarm