ASTRO 10101 Test #4 – Thursday December 4th

Review notes, chapter slides (online), practice questions (online).

Chapter 10:

- Sources and losses of terrestrial planet atmospheres
- Example of Earth’s atmosphere: composition, temperature, pressure
- Planetary albedo and temperature
- Greenhouse effect and temperature
- Weather, circulation patterns, clouds, precipitation, climate changes
- Atmosphere of Mars: composition, seasons, ice caps, dust storms, evidence of surface water
- Atmosphere of Venus: composition, cloud layers, runaway greenhouse effect
- Atmosphere of Earth: interaction of light and atmosphere in different layers,
  - Carbon Dioxide Cycle and temperature stability mechanisms
  - Carbon Dioxide and global warming

Chapter 11:

- Jovian planets: Jupiter, Saturn, Uranus, Neptune
- Spacecraft missions
• Composition, density, sizes
• Interior structure, magnetic fields
• Atmospheres: colors, bands, spots
• Jupiter’s large moons: Io, Europa, Ganymede, Callisto
• Saturn’s large moon: Titan (atmosphere) and Huygens probe
• Neptune’s Triton (Pluto look-alike)
• Saturn’s rings: composition, resonances, formation
• Rings of Jupiter, Uranus, Neptune

Chapter 12:
• Asteroid properties and orbits
• Meteors and meteorites (primitive, processed)
• Comets: “dirty snowballs”
• Comet nucleus, halo, plasma tail, dust tail; changes with heating
• Comet debris and meteor showers
• Comet origins in Oort Cloud and Kuiper Belt
• Kuiper Belt Objects: Eris and Pluto
• Collision of Comet SL9 with Jupiter
• Collisions and impacts on Earth (extinction of the dinosaurs)