

Test Three Preview

AST 102 Stars, Galaxies, Universe — Lecture Classes

Keeping in mind the usual study approach guidelines given in the first two previews, turn to the Course Outline, Unit V, Section F, on double stars. This was pretty much just descriptive terms, so know what the terms mean. Remember to note the values of double stars to astronomy.

The Mass–Luminosity Relation in Section G refers to two related lines of thought. One is the sequential logic connecting mass to luminosity and the other is a direct connection of mass and luminosity expressed in the equation known as the, well, mass-luminosity equation. So know both.

Stellar Populations in Section G is also just descriptive. Know the several aspects of each population type. This is evidence for pondering upon, but we haven't yet pondered on it.

Have you got the steps in getting from mass to luminosity? (just checking)

What do these terms mean or refer to? yin and yang, nuclear fusion, nucleosynthesis, proton-proton chain, CNO cycle. Note the business about the creation of light energy and its flow outwards to space. In the Pre-main sequence phase, know the sequence of steps we covered in class, not just their order, but also something about each step. Oh, what's the age of our sun and solar system?

What do all stars do while in the main sequence phase? Have you noted how Einstein's $E = mc^2$ applies to stellar nucleosynthesis?

What are all stars doing after their main sequence phase during their ascent to the Red Giant stage? Several things are going on here; it's a little more complicated than the main sequence phase, which is basically simple to describe. Things definitely get more complicated during the Red Giant stage, because what happens depends upon the mass of the star. What can massive stars (greater than several solar masses) do that less massive stars can't?

What is the helium flash and what's "degenerate" about this topic?

What are white dwarfs, neutron stars, black holes? What stops their collapsings?

Have a general understanding of the steps involved in Types I and II supernovae.

**What factors made Supernova 1987 A so helpful to astronomers in checking their theory?
What theory?**

The structure and length of Test 3 is pretty identical to the first two.