Physics 174 4 May, 2007
Study Guide for the Final Exam

Like the previous exams, the Final will be multiple choice. It will most likely have 100 questions, and it will be cumulative, covering material covered in previous exams, as well as material introduced in Unit IV. Some questions will be taken, more or less, from previous exams, quiz questions, and possibly even the practice exams. Most of the questions will be new.

The questions below are for the material covered in Unit IV. Students should also carefully study those topics discussed in today's review lecture.

Sample questions

What is a Doppler shift? How does it work?

Why is Gliese 581 in the news?

Define the following: Brown dwarf. L dwarf. T dwarf. Exoplanet. Hot Jupiter.

How can astrometry be used to detect planets orbiting other stars?

How can we use radial velocities detect exoplanets?

What methods to detect planets around other stars have been most successful?

What is a selection effect? What are some of the selection effects introduced by the different methods of detecting exoplanets?

What can we learn by studying an exoplanet when it transits the star it is orbiting?

The history of searching for exoplanets is full of false detections. Describe one.

What is the brown dwarf desert?

Why is the formation of life on a planet orbiting a massive star unlikely?

What is a habitable zone? Which stars have the largest habitable zones?

What is the Drake Equation? Why is the result of the Drake Equation so uncertain?

What is the Fermi Paradox?

What is the goal of the Kepler mission? How will it achieve this goal?

How might life be detected on an exoplanet?

How does the Search for Extraterrestrial Intelligence (SETI) work?