

Ay 102 - Winter 2022

Hillenbrand

Time for a Mid-Term Review!

due 18:00, 15 FEBRUARY

Think of this as a mid-term self-assessment, rather than as an exam. It is meant as an opportunity for you to review and reinforce your learning and appreciation of the Ay102 material thusfar.

ISM/IGM/CSM is a rich topic, and it is important to understand the fundamentals – whether you are thinking about theory, or about how to interpret astrophysical observations of almost any electromagnetic nature (the same physics applies). Going forward in this class, we are going to start connecting-the-dots a little more, as we get into discussing the ISM as an ecosystem, rather than as distinct pockets of gas with certain grounding microphysics and macroscopic attributes. This assessment is also a good opportunity to practice your scientific writing.

I will grade you qualitatively, based on my perception of your effort as: high, sufficient, or low relative to my expectations. In the past, Ay102 students have submitted generally 2.5-3 pages of text for this assignment, but feel free to carry it anywhere you like.

Task 0: Read through your class notes. Really, do this. Start at the beginning and read all the way through the last lecture finishing up on interstellar dust (week 6), following on our several weeks of discussion of interstellar gas (weeks 2-5). Also skim the slides I've shown in class and posted; this is useful supplementary material, though some of it is more complex than we have discussed.

Task 1: Summarize what you have learned, globally and specifically about the ISM. Which concept surprised you the most?

Task 2: Make a list of 5 concepts that you feel you do not grasp as well as you think you should. Tell me what you “get” of the concept, then also describe what aspects of it are still difficult to understand. Feel free to discuss any aspects of the material among the group, but please carry out the assignment on your own without forming some sort of class consensus on the mysterious aspects of ISM (and there are indeed many.....).

Task 3: Pick 1 of these 5 items and do some extra reading in the textbooks or on the internet to figure it out. Explain the concept from start to finish, i.e. beginning at some common point of knowledge and progressing through the more complex parts you didn't understand before. Use mostly words, with equations as necessary, in your articulation.

TERM PROJECT REMINDER: If you are behind on this, please try to make some progress so the project is not overwhelming at the end of term.