PHY229: Extrasolar Planets and Astrobiology
Assessment Guide

This is a brief guide to the level you need to achieve for different degree classes. I will balance these components, there is no exact marking scheme (e.g., 20% for style).

The key things I am looking for you to show are (1) understanding, (2) addressing the question, (3) supporting information, and (4) style and structure. The first three parts are connected – you demonstrate your understanding most often through the answer to the question, and the supporting information you provide.

By the end of this course you should be able to provide a considered answer to all of these questions supported by relevant information. You should be able to distinguish between ‘facts’, well-supported theories, and speculation of varying degrees, and explain the difference between them.

It is your responsibility to demonstrate your understanding to me. If your answer is garbled and incoherent all I can assume is that your understanding is garbled and incoherent.

I can also only read the words you have written. You have to make sure your sentences say what you want them to say. A badly written sentence can confuse, or even reverse, your meaning. Please try and avoid a sentence (or two) that says the opposite of what you mean – it is awful to have to mark an answer down for what I am almost (but only almost – and this is the problem) sure is just bad sentence structure.

I will assess the essays using the following criteria:

0. Understanding. Your essay should demonstrate an understanding of the question and its broader context.

1. Answering the question. Your essay should answer the question you have been asked. The content should be relevant to the question and the structure should be such that it addresses the question in a logical and sensible way.

2. Information. You should support arguments or discussions with correct and relevant facts/theories/ideas. Extra credit will be given for information not directly presented in the lectures. You should distinguish between levels of certainty in facts/information and what is speculation.

3. Style. Your essay should be logically and sensibly structured. Minor spelling and grammar mistakes will not be penalised unless they obscure the meaning.

It is important to note that I will not penalise grammar and spelling mistakes unless they obscure the meaning. It is easy to write something that obscures your meaning... so be careful.

Understanding
I. Clear understanding of the material and its context. Differentiation between ‘fact’, theory, and speculation. Presenting different interpretations and their relative plausibility. Use of specific examples and quantification (ie. giving dates, sizes, scales etc.).

II.1. Good understanding of material and context, ability to differentiate between levels of understanding/plausibility. Some use of specific examples and quantification.

II.2. Fair coverage of facts and information, with some illustration of their general context and meaning. Few or wrong specific examples and quantification.

III. Patchy coverage with irrelevant/incorrect information included. Inconsistent/misunderstood/out of context information. Few or wrong specific examples and quantification.

Fail. Misunderstood, confused and/or wrong information, lack of context or misunderstood context. No or wrong specific examples and quantification.

Answering the question

I. Clearly understanding the question and its context and providing an answer that addresses the question (and only the question) directly with relevant supporting information.

II.1. Providing an answer that mostly answers the question and does not tend to go off-topic too often or provide too much irrelevant information.

II.2. Showing an understanding of what the question is asking, but often failing to address it directly, or spending too much time off-topic.

III. A partial understanding of the question, but generally failing to address it and providing irrelevant or wrong information in the attempt.

Fail. No understanding of the question or its broader context and little or no relevant information (probably mixed with irrelevant or wrong information).

Supporting information

I. Significant amounts of correct and relevant information to support arguments, including information not directly from the lectures. Evidence of independent thought and consideration of this information.

II.1. Generally significant amounts of correct and relevant information to support arguments, some evidence of independent thought about this information.

II.2. Some correct and relevant information, but with little independent thought or research, some incorrect and/or irrelevant information.

III. Lack of supporting information or any lack of evidence of understanding of supporting information. Much of the information incorrect/misunderstood or irrelevant.

Fail. Little or no supporting information, or information mostly wrong, misunderstood or irrelevant.
Style and structure

I. Well written, clear and well structured essay that maintains a logical and sensible narrative which flows well.

II.1. Good, fairly formal English. Sensible narrative flow which logically follows an idea/argument.

II.2. Generally reasonable English, and some sense of structure and flow. Introduction and conclusion preferable.

III. Poor and confusing English with a partial structure or flow to the essay, some attempt at a narrative.

Fail. Poor or incomprehensible English, little or no flow or structure to the essay and no coherent argument.

Level (article only)

For the article you need to write for somebody else on your course.

I. Explain technical terms and context, assume the right level of prior knowledge.

II.1. Mostly explain technical terms and context, sometimes assume too much or too little prior knowledge.

II.2. Generally poor explanations through an assumption of too much or too little prior knowledge, lack of useful explanation of technicalities.

III. Mostly poor explanations and descriptions, lack of evidence of thought about the level of the audience. Context lacking.

Fail. No attempt to account for your audience and their prior knowledge. No attempt to put into context.

Levels of ‘wrong’

There are different levels of ‘wrong’.

It is possible in the midst of an otherwise very good answer to give some slightly incorrect or misunderstood information, this may well not be penalised much (and maybe not at all). For example, describing super-Earths as being planets $> 5M_{\text{Earth}}$ (rather than $> 2M_{\text{Earth}}$), or saying that the Cambrian Explosion occurred 750 Myr ago (rather than 550) is not of crucial importance if in the middle of an answer that otherwise displays a good understanding and presents lots of correct information.

But it is possible to provide wrong information that shows a very significant lack of fundamental understanding, and this can be penalised heavily. For example, talking at length about how humans appeared in the Cambrian Explosion is very wrong and shows you have no understanding of the sequence or timescales of the evolution of life on Earth.

One or two minor errors/misunderstandings will not be penalised much. Very significant, or repeated minor errors/misunderstandings will be penalised, possibly very heavily.