

Debate topics and associated lecture numbers

We will have five formal debates during the class. I will ask you to form groups of four (these groups need not remain the same for all debates), and will pose the topic. I will give each of the five groups of four ten minutes to discuss collectively the major points for or against the proposition. There will then be a random drawing to determine the role of each of the five groups. One will argue for the proposition, one will argue against, and the remaining three will be judges. For example, in the first debate, one group will argue that multicellular life does not exist anywhere but the Earth, and the other will argue that it does. I will give you five more minutes to work out your specific arguments. Then one person from one of the presenting groups will get five minutes to present their position; unlike in competitive debates we are *not* looking for a fast presentation of many points, but are instead looking for a clear presentation of the key points. The other group will present their position in the next five minutes. The first group then gets five minutes for rebuttal, and finally the second group gets five minutes for further elaboration and rebuttal. Each of the three judging groups gets five minutes to determine the winner; not the group whose point they agree with, but the group who presented their side best given the strengths and weaknesses of that side. In the five minutes following we will poll each of the judges to determine who they think won, and the winning group will get first choice of candy, the judging groups will get the next choice, and the losing group gets last choice.

As you will know the topics in advance, I expect you to prepare in advance. As part of this, for you to get full credit for your part of the debate, you will need to bring in points that you got from your own investigations, not just from material we covered in class. With five debates, and four participants in each debate, we will arrange things so that if we have 20 students then every student will make one and only one appearance that counts in the debate. These count in your participation score. If we have fewer than 20 students, then once every student has participated in one debate, we'll ask for volunteers to do another, with zero consequences for the participation grade: no matter how poorly or how well the second try goes, the first one is the one that counts.

Because this is a class on life in the universe, many of the debates will focus on topics related to how common life, and especially intelligent life, is in the universe. The debate topics and associated lecture numbers (noting that lecture 7 in the sequence is the midterm) will be:

3. The Earth is special enough that it is the only place in the universe with multicellular life; for or against (due to the snow cancellation of our first class, this will be after Evolution 1: early ideas and misconceptions lecture)

5. Within 50 years, we will be able to create life in a laboratory; for or against (after The origin of life lecture)

8. Life very different from ours (e.g., not carbon-based or not involving water) exists in the universe; for or against (after The requirements for life lecture)

11. In 1000 years, the average technological level of humanity will be higher than it is now; for or against (after The future of life on Earth lecture)

13. We are the only intelligent civilization currently in our Galaxy (there might be others in the universe), versus there are at least several other intelligent civilizations in our Galaxy. (after Fermi paradox lecture)