

## 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 religion played a net positive role in the development of the scientific revolution, and another will argue that religion played a net negative role. I will give you five more minutes to work out your specific arguments. Then one person from one of the presenting groups (determined randomly) 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. In the five minutes following we will poll each of the 12 judges to determine who they think won, and the winning group will get first choice of the 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 all 20 students make one and only one appearance that counts in the debate. These count in your participation score.

The debate topics and associated lecture numbers (noting that lecture 7 in the sequence is the midterm) will be:

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)

9. Humanity should aim to have a permanent base on Mars within 50 years; for or against (after Mars 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)