**FYS207 Earth Corps Week 4 Video Review Exercise Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Watch the class videos listed below, and answer the following review questions. Save your work, and upload answer sheet to FYS207 Canvas Course Shell in an Acrobat PDF or MS Word document format.

**Climate and Topography (~1 min)**

<https://www.youtube.com/watch?v=meJYo_09aUM&list=PLNdMkGYdEqOCvZ7qcgS3efKm26exq5E3K&index=23>

1. Define the term “topography”.
2. Draw and label a sketch that demonstrates the “rain shadow” effect common in the Pacific Northwest.

**Climate Zones (~5 min)** <https://www.youtube.com/watch?v=ifkc_NNufT4&list=PLNdMkGYdEqOCvZ7qcgS3efKm26exq5E3K&index=21>

1. What are the essential characteristics of the atmosphere that define climate on planet Earth.
2. True or False: cold air of the polar regions collide with the warm air of the equatorial region to form the jet stream.
3. Draw a sketch, or show an image, with the 5 primary global climate zones discussed in the video.
4. What types of air masses influence the climate of the U.S. and North America.
5. What are the primary systems that are the focus of permaculture.
6. How does climate at a location influence permaculture design methodology?

**Microclimates and Permaculture (~3 min)** <https://www.youtube.com/watch?v=PzWhnudcIhA&list=PLNdMkGYdEqOCvZ7qcgS3efKm26exq5E3K&index=30>

1. Define solar aspect
2. What is a microclimate? And what is the scaling in terms of distance.
3. What are the 6 factors that determine microclimate?
4. Discuss the example of how wild fire determines the occurrence of Manzanita in the southwestern U.S. Draw a sketch illustrating the relationship.
5. What do Cottonwood trees indicate about climate in the southwestern U.S.?

**Solar Aspect (~2 min)** <https://www.youtube.com/watch?v=9KJC7J7ktmc&list=PLNdMkGYdEqOCvZ7qcgS3efKm26exq5E3K&index=29>

1. Draw sketch showing the relationship between solar aspect and solar heating of your home in the Northern Hemisphere.
2. Describe the differences between solar heating and solar radiation flux in the northern hemisphere: north-south-east-west.