PHYS 1203 ENVIRONMENTAL PHYSICS

Summer Session 1 - 2019

Textbook: *Energy: Principles, Problems, Alternatives* (Addison Wesley, 4th or latest edition) by Joseph Priest

SYLLABUS

1. Chapter 1: **Energy and Society**
2. Chapter 2: **Energy Principles**
3. Chapter 3: **Fossil Fuels**
4. Chapter 4: **Electric Energy**
5. Chapter 5: **Fossil-fuel Electric Power Plants** – Coping with Particulate Matter, Particulate Collection Devices, Acid Precipitation
6. Chapter 6: **Electromagnetic Radiation**
7. Chapter 7: **Global Warming and Ozone Depletion**
8. Chapter 9: **Automobiles** – Carbon Monoxide and Photochemical Smog
9. Chapter 10: **Nuclear Physics Principles**
10. Chapter 11: **Nuclear Energy**
11. Chapter 12: **Solar Energy**†
12. Chapter 13: **Other Energy Systems**†
13. Chapter 14: **Solid Waste Management**†

†If time permits

This is an ambitious list of topics and certainly everything cannot be discussed in great detail. Class participation, discussion and interest will determine much of what topics will be stressed. However, as many chapters as possible will be covered so that at the end of the course, we have a better understanding of the overall environmental picture and our roles, as humans, in this picture.

MATH REQUIREMENT: This course is an attempt to study the environment and its resources through the eyes of a physicist. Hence, we shall use the language of a physicist which is mathematics. More specifically, we shall have to endure the relearning of high school algebra. However, a good number of topics will be non-mathematical in nature.