BSCI 205 (#4)

THE MOVEMENT OF ENERGY THROUGH ECOSYSTEMS

A. Energy

1. Definition
2. Types of energy
3. Two major forms, based on how energy used:
   a) kinetic energy
   b) potential energy

B. First Law of Thermodynamics

1. Definition
2. Examples

C. Second Law of Thermodynamics

1. Definition
2. Examples

D. The movement of energy through ecosystems

E. Measuring energy efficiency

F. The spectrum of electromagnetic radiation

a) Types of radiation

b) Energy inversely proportional to wavelength

G. Global energy balance

H. Converting solar energy to chemical energy

1. Photosynthesis

2. Measuring productivity: GPP (gross 1^o productivity) vs NPP (net 1^o productivity)

3. Comparison of different ecosystem's NPP

I. Trophic dynamics

1. Food chains

2. Ecological efficiency