Unit 5 Objectives - Human Population & Health:

A. Population Biology Concepts
    a. Population ecology
        i. population growth curves
    b. carrying capacity
    c. reproductive strategies
    d. survivorship
B. Human Population
    a. Human population dynamics
        i. Historical population sizes
            1. Differences in growth rates between developed/developing countries
        ii. distribution
            1. Global population distribution
        iii. fertility rates
            1. Total fertility rates between developed and developing countries
        iv. growth rates and doubling times
        v. demographic transition
            1. explain changes between each demographic transition
            2. determine changes to birth rates and death rates and population
            3. explain reasoning behind transitions
        vi. age-structure diagrams
            1. determine if population is growing, declining, or stable
            2. predict future changes to pyramid
    b. Population size
        i. Strategies for sustainability
            1. current changes to the world population
        ii. case studies
        iii. national policies
            1. Incentives for controlling population growth
            2. Regulations by certain countries and impact of regulations
    c. Impacts of population growth
        i. Hunger
        ii. disease
        iii. economic effects
        iv. resource use
        v. habitat destruction
C. Impacts on the Environment and Human Health
    a. Hazards to human health
        i. Environmental risk analysis
            1. transmissible vs. non transmissible diseases
            2. poverty is highest risk factor

ii. acute and chronic effects
    1. Infective agents & vectors
    2. Sources, health effects, and ways to reduce
        a. mercury
        b. arsenic
        c. lead
        d. PCBs
        e. malaria
        f. AIDS
        g. influenza
        h. diarrhoea
iii. dose-response relationships
    1. calculate LD50
    2. define and determine threshold & non-threshold levels
    3. synergistic vs antagonistic effects
    4. mutagens, teratogens, carcinogens
iv. air pollutants
v. smoking and other risks