

HW will be handed out prior

HW #1
AECO 4309
Fall, 2019
DUE Friday
September 20, 2019

I. Persons must consume about 1 ton per year of a local food to retain a proper protein and a enough food. Currently there are 100 persons and 110 tons of food produced.

1. If food production increases by 5 tons per year and population growth rises at 3 percent per year, track the population and food level produced each year until population outstrips food production.
 - a. At what year does this occur?
2. Food Production Per Person increases for some period. When (between which two years) does Food Production per person reach its maximum.
3. Make two graphs.
 - a. On the first graph track the Food Production and Population Levels in question Number 1.
 - b. Place the second graph below. Graph food output per person over time.
 - c. On both graphs mark the period when food per person reaches its maximum and at what point for production is not adequate to feed the population.
4. What if the government decided to embark on an education reform program to improve schools? That program takes resources from food production to fund education:
 - a. So, period food production increases fall to four tons per year for 10 years, but returns to 5 tons after that.
 - b. If population stays at 3% for years 1-9, then declines to 1% for years 11-20, and then falls to 0% per year forever, what is the new track of population and for production for 30 years?
 - c. Is there ever a shortfall? If so, by how much and for how many years?
5. Make the same two graphs as question #3 for this new scenario.
6. Why would population growth fall as more girls go to school?