

AEDE 4330 Study Guide III

Spring 2018

Lecture 14

- Thermodynamics { First Law:
Second Law:
 - ✧ Implications on NC?
- Systems
 - { Open systems
 - { Closed systems
 - { Isolated systems
 - ✧ What is the Earth?
- Relationship between economy and ecosystem
 - { Unlimited growth
 - { Empty world
 - { Full world
- Growth { (Economists):
{ (Ecologists):
 - Steady state
 - ✧ Steady state vs. development?
- Physical limits to economic growth
 - { Material inputs { Nonrenewable resource:
Renewable resource:
Ecosystem destruction:
 - { Assimilative capacity { Recyclable waste:
Non-recyclable waste:
 - { Throughput:

Lecture 15

- Measuring strong sustainability
 - 1) Focused on NC
 - 2) Measured in physical NC terms
- 1. Ecological footprint
- 2.

}	Ecological footprint:
	Biocapacity:

 - **Strong sustainability test:**
Strongly sustainable if ecological footprint biocapacity
 - ✧ Strong sustainability test using footprint measure vs. general strong sustainability rule?
 - Calculating ecological footprint
 - Step 1: Primary products
 - Step 2: World hectares
 - Step 3: Global hectares
- 3. Planetary boundaries
 - ✧ Planetary vs. social boundaries?

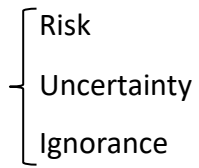
Lecture 16

- Describing randomness

}	State
	Probability
	Payoffs

 - Action
 - ✧ How to do CBA with randomness?
 - Step 1:
 - Step 2:
 - Step 3:

- Levels of randomness

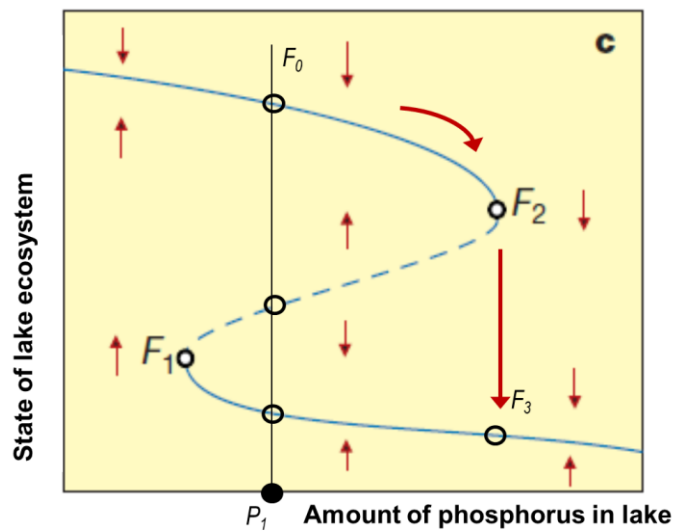


- - Option value
 - Quasi-option value

- ✧ Arguments to support strong sustainability?
- ✧ Weak sustainability vs. strong sustainability? (assumptions, criteria, measures...)

Lecture 17

- Regime shifts



- Resilience:
 - Resistance
 - Recovery