

Systems Thinking

Schedule – Readings, Product deadlines

P Bishop, 1/14/2014

This document contains a list of the major readings and product deadlines as of the beginning of the course. Other readings and weekly activities will be assigned or recommended within the Overview page for that week. This list may also change over time so be sure to consult the weekly Overview pages for the exact readings and assignments for each week.

<i>Date</i>	Topic	Reading <i>(by class at beginning of week)</i>	Due <i>(first draft, at end of week, except Terms and Statements)</i>
1. Jan 15	Introduction	Bishop, pp 1-11	Introduction Puzzlers
2. Jan 22	Fish Banks	Fish Banks PPT	Fish Banks reflection
Cybernetic Systems			
3. Jan 29	Systems theory	Kauffman, Systems I Meadows, Systems Lens, Ch 3-4 Anderson, Sec 1	Key terms <i>(Before class)</i> Key statements <i>(Before class)</i> Questions
4. Feb 5	Rich Pictures Beginning Models	Bellinger, Ch 1, 4 Anderson, Sec 2	Concept map Anderson exercises
5. Feb 12	Causal Models I – Describing Systems	Bishop, pp 11-13 Bellinger, Ch 6 -- Why Model?, Model Boundaries Anderson, Sec 3-4	Cybernetics quiz Variables exercise Modeling homework I Bellinger exercises
6. Feb 19	Causal Modeling II -- Modeling Sys		Modeling homework II Collection models Fish Banks model
7. Feb 26	System Dynamics II – SD Models	Anderson, App D Meadows, Ch 5	Generic models Archetype models Term causal model (First draft)
8. Mar 5	Leverage	Bishop, pp 14-16 Bellinger, Ch 6 -- From Mental Models... Meadows, Ch 1-2	First Step models Beginner models Homework II models
Mar 10-14 Spring Break			
9. Mar 19		Bellinger, Ch 5	Bellinger models Term SD model (First draft)

10. Mar 26		Meadows, Ch 6	Term model with variation
Agent-based Systems			
11. Apr 2	Complexity, Information	Bishop, pp 16-24 Mitchell, Ch 1, 4 Complexity Explorer (CE), Sec 1.2, 1.3, 1.5; 4.1-4.4 Bellinger, Ch 10	CE, 1.7-1.9, 4.7
12. Apr 9	Linearity, Criticality, Chaos	Mitchell Ch 2 CE, Sec 2.1-2.6 Model Thinking (MT), Sec 7 Bak	CE, 2.8
13. Apr 16	Agent-based simulation	Mitchell, Ch 5-7 CE, Sec 5.1, 5.2, 5.4;6.1-6.4- 7.1-7.4 MT, Sec 2	CE, 5.6, 6.8, 7.8 NetLogo model (first draft)
14. Apr 23	Networks	Mitchell, Ch 9-10 CE, Sec 9.1-9.4, 10.1, 10.2, 10.4	CE, 9.6
15. Apr 30			Complexity quiz Draft Portfolios due
16. May 7			Final Portfolios due