

**Systems Thinking - Spring 2012**  
**Schedule: Topics, Readings & Product deadlines**

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.

*Readings must be done before class on the indicated date. Assignments must be handed in by 9 PM US Central Time the day before the next class date so that I can have a chance to look at them before the next class.*

<b>Class Date</b>	<b>Topic</b>	<b>Reading</b> <i>(Do before class!)</i>	<b>Assignment (Due Date)</b>
1. Jan 18	Introduction		Online Introduction, Puzzlers (due 1/24)
1. Jan 25	General Notion of Systems Part I; Fishbanks Simulation	DK 1, ch. 1-6 PS ch. 13-16	Key terms & Statements Questions (due 1/31)
1. Feb 1	General Notion of Systems Part II	DK, Appendix A&J, sec. 1-2	Key terms & Statements Kauffman's rules (due 2/7)
1. Feb 8	Beginning Models, BOT graphs	A&J, sec. 3 PS, ch. 13-16	Fish Banks reflection Concept map Anderson exercises 1 (due 2/14)
1. Feb 15	Causal Models I – Describing Systems	A&J, sec. 4 PS pp 113-120	Variables exercise <b>Quiz</b> (due 2/21)
1. Feb 22	Causal Models II – Modeling Systems	DM, ch. 1 & 2	Modeling homework I Anderson exercises 2 (due 2/28)
1. Feb 29	Causal Models III -- Modeling Systems	DM, ch. 3 & 4 [optional: DK 2]	Modeling homework II Collection models Fish Banks model (due 3/6)
1. Mar 7	Causal Models IV – Generics, Archetypes, Domains	DM, ch. 5 PS pp 121-163 A&J, app D	Generic model Archetype model Domain model (due 3/20)

Mar 16 Spring Break			
1. Mar 21	System Dynamics, Stocks & Flows	PS pp 164-190	First Step models Beginner models Homework II models (due 3/27)
1. Mar 28	Leverage and Change	A&J, sec. 5-6 DM, ch. 6-7	Stock-flow exercise Story of the Month World3 comments Leverage models (due 4/3) Scratch model (begin)
1. Apr 4	Agent Based Systems I	A&C, all MR, ch 1, 2, 4	Key terms Key statements Questions (due 4/10)
1. Apr 11	Agent Based Systems II		CAS examples StarLogo examples Chaos/Complexity Reflections (due 4/17)
1. Apr 18	Work on Portfolio and Term Model		<b>Quiz &amp; Draft Portfolios (due 4/24)</b>
1. Apr 25	Work on Portfolio and Term Model		<b>Revised Term Models (due May 1)</b>
1. Exam week	Finish Portfolio		<b>Final Portfolios (due Mon May 7)</b>
1. 11 May	Semester Closes		

### **Readings**

DK 1 and DK 2 -- Kauffman, *Systems One and Systems Two (provided online)*

PS – Peter Senge et al., *The Fifth Discipline Fieldbook*

A&J – Virginia Anderson and Lauren Johnson, *Systems Thinking Basics*

DM – Donella Meadows, *Thinking in Systems*

A&C -- Robert Axelrod and Michael D. Cohen, *Harnessing Complexity*

MR -- Mitchell Resnick, *Turtles, Termites and Traffic Jams*