

## **SySc 513: Systems Approach** (4 cr hr)

Spring Quarter, 2008, TuTh 4:40-6:30pm, TBA

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Course Web Site:[http://www.pdx.edu/syssc/courses\\_spring2008.html](http://www.pdx.edu/syssc/courses_spring2008.html) -- select Systems Approach

## **SYSTEMS APPROACH: Syllabus**

This course provides a practitioner-oriented definition of systems, including importance of observer dependence and context, and ideas of meta-systems and subsystems (Lendaris); philosophical foundations, human dimensions, value systems and associated optimization/sub-optimization, casuistry, and aspects of life-cycle project management (Hall); inquiring systems (Mitroff & Turoff); key aspects of human learning organizations, systems thinking, and systems modeling (Senge); qualitative tools for the systems practitioner, including various graphical tools (Delp); structural modeling (Warfield); and the multiple perspectives aspect of the systems approach, both “horizontal” and “vertical” (Lendaris, Hall, and Linstone).

**This course fulfills a core SySc requirement.**

### **Readings - Books available at Bookstore:**

- Hall, A.D., *Metasystems Methodology, A new Synthesis and Unification*, Pergamon Press, NY, 1989. (Ch. 1, 2, 4-8, 10) **Course Pak** at Bookstore.
- Linstone, H.A., *Decision Making for Technology Executives*, Artech House, Boston, 1999. (Ch. 1-5, 9, A.5)
- Rabow, et al, *Learning Thru Discussion*, Sage, Beverly Hills, CA, 1994. (Full book)
- Senge, P.M. *The Fifth Discipline: The Art and Practice of the Learning Organization*, Doubleday, 1990. (Full book)

### **Readings - Packet at Smartcopy:**

- Delp, et al, *Systems Tools for Project Planning*, Indiana Univ., 1977, excerpts.

### **Readings - .pdf files on course Website:**

- Lendaris, G.G., “On Systemness and the Problem Solver: Tutorial Comments,” *IEEE, Vol. SMC-16, No.4*, July/August, 1986.
- Lendaris, “On Human Aspects of Structural Modeling,” *Technology Forecasting and Social Change, Vol. 14, pp 329-351*, 1979, excerpt.
- Mitroff & Turoff, two articles re. Enquiring Systems a la Churchman.
- Warfield, *Societal Systems*, Ch.3.

**Prerequisites:** Graduate status or permission of the instructor.

**Teaching Style:** Students read assigned papers and prepare “Cognitive Maps” as described in Rabow, et al, *Learning Thru Discussion*. Students participate in class dialogue of material.

<b>Grade basis:</b>	Homework	1/3
	Class Participation	1/3
	Final Exam (take-home)	1/3

### **Homework format:**

Upper left corner: Last name, First name.  
Homework identifier (e.g., Linstone, Ch 3, Cog Map)  
Due date for assignment.

Use 12 pt. type font for all text, and print on only one side of paper.

For assignments with with multiple components, start each component on a new page.

Use full citation format to identify article or chapter being reported on.

**E-Mail to instructor:** For any e-mails to me, please use (only) "SySc 513" in the Subject line.