

ESD.83 Assignment 7: Practicing Systems Concepts

One paper, approx. ~1550 word paper; 10% of total grade

Attached you will find a document entitled “Complex, Sociotechnical Systems (CSS): Some Fundamental Concepts,” which tries to capture many ideas that we experientially have found to be of value when one tries to characterize/analyze/design a complex sociotechnical system (CSS)— please see the attachment for a working definition of a CSS. No claim is made for comprehensiveness of this document nor, except in a few situations, do we claim originality; many of these concepts will be familiar to you and have been documented in texts, professional papers and so forth. We owe a huge debt to seminal systems authors including (but not limited to) Forrester, Simon, Senge, Lorenz, Weiner and others. Also we have drawn on the work of ESD colleagues including (but not limited to) Sterman, Moses, Magee, de Weck and others.

This assignment asks you to do three things.

First, we ask you to choose any CSS that you have good familiarity with – you all have some “domain” in which you developed at least a modicum of expertise. Describe the system you have selected so the instructor and staff who may have modest expertise or perhaps none in that domain can have an idea of what you are talking about. Limit your response to this part to 300 words.

Second, we ask you to read “Complex, Sociotechnical Systems (CSS): Some Fundamental Concepts” in its entirety. Then discuss your CSS using the paper as a guide. We are flexible on your approach. Some students may choose one of the points in the paper and discuss that single point in depth as it relates to their CSS. Others will chose to identify and discuss in less detail a number of the points as they relate to their CSS. Either is fine. In any case, limit your response to this part to 1000 words

Third, as noted above, we made no claim to completeness in this document. We ask you -- based on your own systems experience within the domain you discuss in this assignment and perhaps other domains-- to add concepts that you believe would help us to achieve a more complete document. Limit your response to this part to 250 words.

You can think of this assignment as “**practice.**” You should get in the habit of “automatically” thinking in terms of systems concepts when you consider a CSS. We talked about practicing when we discussed scenarios in Class 6. Doing an assignment like this is practicing how one thinks about system.

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ESD.83 Doctoral Seminar in Engineering Systems

Fall 2009

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