

Education 357X: Interdisciplinarity in Higher Education

Spring 2005

Units: 3 (additional units are possible)

Letter Grade Only

Target Audience: Graduate Students in SUSE

Meeting Time: Tuesdays 3:15 – 6:00pm

Location: CERAS 513 (Higher Ed Conference Room)

Instructors: Patricia J. Gumport and Myra H. Strober

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This seminar addresses core themes in the emergence of interdisciplinarity in research universities. Analytically, a primary concern is to understand the factors that foster and constrain interdisciplinarity in teaching and in research. We will draw on concepts from literature in higher education and sociology to examine the characteristics of interdisciplinary pursuits alongside our examination of contemporary examples of interdisciplinarity in research and teaching. Spanning a variety of fields in the academic landscape, we will look at well-known examples in the sciences, social sciences and humanities as well as recent initiatives by Stanford and other research universities to foster interdisciplinary activity among faculty.

Throughout the quarter, we consider different manifestations of interdisciplinarity that have emerged in the context of forces that appear to constrain it: the presumption that knowledge advancement occurs along increasingly specialized trajectories; the self-reproducing character of disciplinary cultures, academic identities, and professional socialization; and the powerful structural realities of departments, resource allocation practices, and academic rewards. How do proponents of interdisciplinarity perceive these features of their university context? What has motivated interdisciplinary work? What are the benefits and costs? What is required to sustain it?

Prerequisites: Students must have already completed one higher education course at SUSE or obtain permission of the instructors. Suitable courses include the research seminar in higher education, the economics of higher education, history of higher education, and advanced topics in higher education.

Assignments: Students are expected to complete required readings prior to class and to participate in class discussion. Students are expected to prepare a paper of approximately 20 pages that analyzes the factors that facilitated and constrained the development of a particular instance of interdisciplinarity (e.g., as a field, a research effort, a teaching program, an institute). Deadlines: A one-page prospectus is due by May 3rd. The prospectus should identify the topic, describe why it is selected, and outline how it will be approached in the paper. The final paper is due Tuesday May 24th in class.

Readings:

The following are **available for purchase at the Stanford Bookstore:**

1. Ed 357X Course Reader
2. Peter Weingart and Nico Stehr, Practicing Interdisciplinarity. Toronto: University of Toronto Press, 2000.
3. Gulbenkian Commission on the Restructuring of the Social Sciences, Open the Social Sciences. Stanford: Stanford University Press, 1996.
4. Lisa Lattuca, Creating Interdisciplinarity: Interdisciplinary Research and Teaching among College and University Faculty. Nashville: Vanderbilt University Press, 2001.
5. C.P. Snow, The Two Cultures. Cambridge: Cambridge University Press, 1998 [1959].

The following is **available for purchase on the National Academy Press website**, <http://www.nap.edu>. You can purchase only the chapters assigned.

National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, Facilitating Interdisciplinary Research. Washington, DC: National Academies Press, 2005.

Some of the readings are available electronically and will be sent to you via email.

Course Schedule:

Week 1: Tuesday March 29 - Introduction

What is interdisciplinarity? What are the rationales for it? What are its different forms? How does knowledge change and advance? What are the core presumptions of the sociology of knowledge?

5:00 to 6:00 - Guest: **President John Hennessy**

Stanford's new interdisciplinary initiatives: What are they? Why has President Hennessy made them a centerpiece of his administration? What are the anticipated benefits and costs? How will Stanford support them?

Week 2: Tuesday April 5 – Disciplines and Interdisciplinarity

Julie Thompson Klein, “A Conceptual Vocabulary of Interdisciplinary Science,” in Weingart and Stehr, pp. 3-24.

Peter Weingart, “The Paradoxical Discourse,” in Weingart and Stehr, pp. 25-42.

Stephen Turner, “What Are Disciplines? And How is Interdisciplinarity Different?” in Weingart and Stehr, pp. 46-65.

Tony Becher, “The Disciplinary Shaping of the Profession,” in Burton R. Clark (Ed.) The Academic Profession: National, Disciplinary, and Institutional Settings. Berkeley: University of California Press, 1987, pp. 271-303. (In course reader)

Ann Swidler and Jorge Ardit, “The New Sociology of Knowledge,” Annual Review of Sociology. Vol. 20, 1994, pp. 305-329. (Available electronically)

Myra Strober, “Challenging Habits of Thought,” Report to the Ford Foundation, August 2004. (Available electronically)

Week 3: Tuesday April 12 - No Class this week- AERA meetings – These readings will be discussed in the first part of class on April 19.

Edward O. Wilson, Consilience: The Unity of Knowledge. New York: Vintage Books, 1999, Chapter 1 (pp. 3 -7); Chapter 2, (pp. 8-14); pp. 207-211; pp. 229-233; pp. 291-195. (In course reader)

Gulbenkian Commission on the Restructuring of the Social Sciences, Open the Social Sciences. Stanford: Stanford University Press, 1996.

Lisa Lattuca, Creating Interdisciplinarity, pp. 1-54.

Week 4: Tuesday April 19- Organizational Issues

James G. March, “Exploration and Exploitation in Organizational Learning,” Organization Science, [Special Issue: Organizational Learning Papers in Honor of (and by) James G. March], March 1991, 2(1) 71-87. (In course reader)

Lisa R. Lattuca, Creating Interdisciplinarity, pp. 267-275, 168-209.

Rhodri Windsor Liscombe, “Practising Interdisciplinary Studies,” in Weingart and Stehr, pp. 134-153.

Bonnie Zimmerman, “The Past in Our Present: Theorizing the Activist Project of Women’s Studies,” in Robyn Wiegman (Ed.), Women’s Studies on its Own. Durham: Duke University Press, 2002, pp. 183-190. (In course reader)

Week 5: Tuesday April 26 – Cultural Studies, Differences in Individuals’ Proclivities for Interdisciplinary Work, and Anthropological Perspectives

3:15 – 4:30 **Guest Speaker, Ray McDermott, Professor of Education and Professor, by courtesy, of Cultural and Social Anthropology**

Stephen Jay Gould, The Hedgehog, the Fox, and the Magister’s Pox: Mending the Gap Between Science and the Humanities. New York: Harmony Books, 2003, pp. 1-8. (In course reader)

Lisa Lattuca, Creating Interdisciplinarity, pp. 55-77.

Rainer Bromme, “Beyond One’s Own Perspective: The Psychology of Cognitive Interdisciplinarity,” in Weingart and Stehr, pp. 115-133.

Clifford Geertz, “The Way We Think Now: Toward an Ethnography of Modern Thought,” Chapter 7 in Local Knowledge: Further Essays in Interpretive Anthropology. New York: Basic Books, 1983. (In course reader)

McDermott, Ray, “Situating Genius,” unpublished manuscript, 2005. (Available electronically)

Julie Thompson Klein, “Blurring, Cracking, and Crossing: Permeation and the Fracturing of Discipline,” in Ellen Messer-Davidow, et al, (Eds.) Knowledges: Historical and Critical Studies in Disciplinarity. Charlottesville: University Press of Virginia, 1993. (In course reader)

Week 6: Tuesday May 3 - Perspectives on Feminist Scholarship

5:00 to 6:00 **Guest – Londa Scheibinger, Professor of the History of Science and The Barbara D. Finberg Director of the Institute for Research on Women and Gender**

Longino, Helen E., “Does The Structure of Scientific Revolutions Permit a Feminist Revolution in Science?” in Thomas Nickles (Ed.), Thomas Kuhn. Cambridge: Cambridge University Press, 2003. (In course reader)

Myra H. Strober, “The Application of Mainstream Economics Constructs to Education: A Feminist Analysis,” in Marianne A. Ferber and Julie A. Nelson (Eds.), Feminist Economics Today: Beyond Economic Man. Chicago: University of Chicago Press, 2003. (In course reader)

Judith A. Allen and Sally L. Kitch, “Disciplined by Disciplines? The Need for an *Interdisciplinary* Research Mission in Women’s Studies.” Feminist Studies 24(2), Summer 1998, pp. 275-299. (In course reader)

[week 6 readings continued on next page]

Kathleen M. Blee, "Contending with Disciplinarity," in Robyn Wiegman (Ed.), Women's Studies on its Own. Durham: Duke University Press, 2002, pp. 177-182. (In course reader)

Marilyn J. Boxer, "Remapping the University: The Promise of the Women's Studies Ph.D." Feminist Studies 24(2), Summer 1998, pp. 387-402. (In course reader)

Nicole Kangas and Susan Olzak, "The Organizational Ecology of Women's Studies Programs in the U.S.," unpublished manuscript, January 15, 2003. (In course reader)

Week 7: Tuesday May 10 – Interdisciplinarity in the Sciences I – Stanford's Environmental Initiative

3:15 to 4:30 - **Guest: Jeffrey Koseff, Professor of Civil and Environmental Engineering and Professor (by courtesy) of Chemical Engineering**

4:45 to 6:00 - **Guest: Pamela Matson, Dean, School of Earth Sciences**

C.P. Snow, The Two Cultures. Cambridge: Cambridge University Press, 1998 [1959].

National Academies, Facilitating Interdisciplinary Research, Chapter 2, ("The Drivers of Interdisciplinary Research") pp. 26-40.

Stephanie L. Pfirman, et al, "Collaborative Efforts: Promoting Interdisciplinary Scholars," Chronicle of Higher Education, February 11, 2005. (In course reader)

Week 8: Tuesday May 17 – Interdisciplinarity in the Sciences II – Medicine and Bio X

3:15 to 4:30 - **Guest: Lucy Shapiro, Virginia and D.K. Ludwig Professor in Cancer Research, Director of the Beckman Institute, and Senior Fellow, by courtesy, at the Institute of International Studies**

Rogers Hollingsworth and Ellen Jane Hollingsworth, "Major Discoveries and Biomedical Research Organizations: Perspectives on Interdisciplinarity, Nurturing Leadership, and Integrated Structure and Cultures," in Weingart and Stehr, pp. 215-244.

National Academies, Facilitating Interdisciplinary Research, Chapter 8 ("Evaluating Outcomes of Interdisciplinary Research and Teaching") pp. 149-170; and Chapter 9 ("Toward New Interdisciplinary Structures") pp. 171-187.

Week 9: Tuesday May 24 – Science & Technology Studies and Science, Technology & Values

Papers due in class today!

4:45 to 6:00 **Guest: Robert McGinn, Professor of Management Science and Engineering in the Science Technology and Society Program and Professor, by courtesy, of Civil and Environmental Engineering**

Week 10: Tuesday May 31

Student Presentations

7:00 pm - End-of-the-class Potluck at Myra Strober's home

Possible paper topics [these are meant only to be suggestive]:

- Benefits and liabilities of obtaining interdisciplinary degrees – may be distinctive yet doesn't align with grad school, academic careers, job opportunities
- Post-doctoral positions as means of obtaining multidisciplinary knowledge
- Founding of UC Irvine and UC Santa Cruz as not having academic departments
- Anomalies with longevity – History of Consciousness Program at UC Santa Cruz; Social Relations at Harvard
- Women's Studies as autonomous field vs. "disciplined"
- Devaluing of ID teaching/research and teachers/researchers – why, by whom, what to do about it?
- Considerations in reviewing and assessing interdisciplinary research and teaching programs- how peer review practices fall short, how practice is devalued (the knowledge vs action dichotomy), how collaborative work is perceived compared to solo work
- Cultural Studies – what is it, how did it gain a foothold and diffuse so quickly?
- University investments and risk – interdisciplinary programs may establish competitive niche yet can be cost-intensive – examples of fields. How can costs and benefits be compared? What are effective temporary structures to avoid long-term fixed costs?
- What are experiences of cross-disciplinary work in the social sciences? Humanities? Across science and humanities?

Some Important References

Julie Thompson Klein, Interdisciplinarity: History, Theory and Practice. Detroit: Wayne State University Press, 1990.

_____, Crossing Boundaries: Knowledge, Disciplinarity, and Interdisciplinarity. Charlottesville: University Press of Virginia, 1996.

Stephen Jay Kline, Conceptual Foundations for Multidisciplinary Thinking. Stanford: Stanford University Press, 1995.

Ellen Messer-Davidow, Disciplining Feminism. Durham: Duke University Press, 2002.