Spring 2016

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STS 2500
Cross-Cultural Engineering

Due Dates

Papers

Paper #1, Version 1	Feb. 19
Paper #1, Revised	Feb 29
Int. Transcription/Notes	Mar 25
Interview Version	Mar 28

Peer Reviews

Paper #1	Feb 22

Final Paper
Due any time before 5 pm, 12/11

Course Materials

Mahler, Sarah J. 2012. *Culture as Comfort*. Boston, MA: Pearson.

Subscription to Scribd.com

All other readings will be available on Collab

Goals

This course starts with the question: "What does it mean to be a cultural being?" We then consider how being "cultural" shapes us, as individuals, as groups, and as engineers. The major goal of the course will be to teach students how to inhabit the "cultural location" of others and then to use that experience to reflect on their own cultural locations. This goal grew out of the idea that engineering problem solving requires attention to cultural differences. People from different cultural backgrounds (and even different traditions of engineering) define problems in different ways and may seek different kinds of solutions. We cannot immerse ourselves in a different cultural world here, but we can use readings, discussions, in-class exercises, and structured reflection to first immerse ourselves in a different point of view and then step back and learn from it.

Through this process of immersion and reflection, students will:

1) develop awareness of variation between peoples and within cultural groups;
2) develop awareness of variation within cultures;
3) explore variation specifically in engineering problem definition and solution;
4) recognize the value of understanding differing cultural perspectives in solving engineering problems;
5) learn how to reflect on how their own goals, abilities and actions might be seen from another's perspective; and
6) synthesize each of these aspects to engineer in a culturally intelligent way.

Beyond this course-specific goals, all STS 2000 and 3000-level courses invite students to explore the implications of STS core concepts within a specific topical or disciplinary area. Though the topics of these courses vary widely, all are designed to help students (1) understand the impact of engineering solutions in a global and social context and (2) recognize and analyze the role that science and engineering play in contemporary issues.

Expectations

I expect you to participate actively in the course. Put differently, I want you to be "present." I do not mean merely showing up, but rather being mindful of the topics under discussion, the readings and exercises, and your own cultural location. Mindful presence requires that you prepare for class before coming (by doing the reading and the other assigned work), and that in class you to attend to the people around you, to what they are saying, how they might be feeling, and so on.

Course Grading

Short Paper	7 points
Peer Reviews	3 points
Discussion Leading	10 points
Interview and Write-up	15 points
Eng. Cultures Townhall	15 points
Final Paper	15 points
Reflection Journal	20 points
Participation	15 points
Total	100 points

Expectations (Continued)

In addition, being "present" requires attending to yourself, what is actually going on with you at the moment, what you are thinking, and why you might be thinking that. A different term for this self-attention is reflexivity, and it is key to cross-cultural interaction and understanding. The only way to develop the ability to interact effectively across cultural boundaries is to be aware of your own patterns of thinking and acting. To encourage mindful presence in class, we will begin each class period with a short mindfulness meditation or other exercise. My expectation for myself -- my commitment to you -- is also to be mindfully present for the classroom time, office hours, grading, and other interactions that we have.

Assignments

There is a range of assignments, each meant to address some different aspect of the course learning goals. I offer brief descriptions below, but a more detailed description of each assignment will be provided in advance of the due date.

All assignments will be submitted and returned via Collab.

Short Paper

Writing is like any other skill: the only way you become good at it is through practice. Further, the best practice involves writing and revising. Since you need experience not just writing your work, but also revising it, you will write a paper that will go through peer review and then be revised. Ideally, you would go through multiple revisions with editorial feedback, but we will only have time for one round of review. (Note that this does not mean that you can only write one draft. You should go through multiple drafts to get to each version. Further, I will accept revisions to graded papers that respond to my comments.)

Peer Review of Writing

Critiquing others' writing can boost your own writing ability. You also should learn to comment helpfully and substantively on others' work. At the same time, your peer review will provide valuable writing experience to your colleagues.

Small In-Class Writing Exercises

In addition to the papers and the peer review, we will have short in-class writing exercises that focus on some aspect of clear writing. These will not be graded, but your participation in them will be noted.

Interview

You will interview some engineer who has extensive international experience, with the hope that you can see how engineers actually do work across cultural boundaries.

Assignments (Continued)

Reading and Reflection Journal

Write at least a one-paragraph response to each reading and one paragraph for each day's class. Your focus should not be summarizing the reading/lecture, although you may use the journal to capture your notes on the reading (on a separate page from the reflection). Instead, you should draw from the reading as you need to articulate your thoughts. Your reflection should address (or relate to) the central concern of the class: understanding cultural location. What insight does the reading give you into cultural difference (or similarity)? The journals will be due BEFORE class, although the paragraph about the class session will cover the previous class. I will collect several randomly chosen journals each class day to read and respond to. You will be assessed for participation only. The entire goal here (aside from getting you to do the reading) is to give you a venue in which you can bounce the readings off of your own life. I will distribute a how-to guide for this.

Discussion Leading/Cultural Exercise

"You never learn something as well as you do when you have to teach it." This truism fits well with my experience, so I would like you to have this experience as well. It also presents an opportunity for a change of pace in the classroom. You will read the course material with a different set of eyes (and ideas) than mine, so you will present material to the class quite differently than I would. This variation in perspective helps everyone learn, including myself. The assignment, then, will be for you to present one of the readings to the class and begin the discussion.

Engineering Cultures Role-Playing

The final activity in the classroom will be an extended role-playing exercise in which you will have to perform as an engineer trained in a different tradition.

Final Paper

The final exam will be a summative reflective paper. It will be due anytime after the last class, but the absolute deadline is May 10, at 5pm.

Evaluation

Grading

I will evaluate your performance based on your writing, your performance (and "presence") in class, and your constructive interactions with your peers

Academic Honesty and Generosity

An academic community requires that its members engage in their work with both honesty and generosity. I expect you to share your thoughts and advice freely with others, but I also expect that you do your own work.

Attendance

You should attend every class, unless you have a good excuse not to come. If you do miss a class, you need to email me beforehand to let me know the reason why. If you miss more than 3 classes, you will lose half a letter grade for every absence beyond those three.

Course Readings

Akubue, A. (2000). Appropriate technology for socioeconomic development in third world countries. *Journal of Technology Studies*, *26*(1).

Basso, K. H. (1979). Joking Imitations of Anglo Americans. In *Portraits of "The Whiteman": Linguistic Play and Cultural Symbols Among the Western Apache*. Cambridge: Cambridge University Press.

Brown, J. K. (2000). Design plans, working drawings, national styles: Engineering practice in Great Britain and the United States, 1775-1945. *Technology and Culture*, *41*(2), 195–238.

Downey, G. L. (2007). Low cost, mass use: American engineers and the metrics of progress. *History and Technology*, *23*(3), 289–308.

Ferguson, J. (2006). Globalizing Africa? In *Global shadows: Africa in the neoliberal world order*. Durham, N.C.: Duke University Press.

Lansing, J. S. (1991). *Priests and Programmers: Technologies of Power in the Engineered Landscape of Bali*. Princeton, New Jersey: Princeton University Press.

Law, J. (1987). Technology and Heterogeneous Engineering: The Case of Portuguese Expansion. In W. E. Bijker, T. P. Hughes, & T. F. Pinch (Eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (pp. 111–134). Cambridge: MIT Press.

Lucena, J., Schneider, J., & Leydens, J. A. (2010). Engineering with Community. In *Engineering and sustainable community development*. Morgan & Claypool.

Mahler, S. J. (2012). *Culture as Comfort*. Boston, MA: Pearson.

Monaghan, J., & Just, P. (2000). *Social and Cultural Anthropology: A Very Short Introduction*. Oxford: Oxford University Press.

Odumosu, T. (2015) Making Mobiles African. Manuscript.

Piot, C. (1999). Exchange. In *Remotely Global: Village Modernity in West Africa*. Chicago: University of Chicago Press.

Sahlins, M. (1982). The Original Affluent Society. In J. Cole (Ed.), *Anthropology for the Eighties* (pp. 219–240). New York: The Free Press.

Sears, A., & Cairns, J. (2005). Making Time: Clocking Social Relations. In *A Good Book, In Theory*. Toronto: University of Toronto Press.

Tannen, D. (1984). The pragmatics of cross-cultural communication. *Applied Linguistics*, *5*(3), 189–195.

Tannen, D. (1986). The Workings of Conversational Style. In *That's Not What I Meant!: How Conversational Style Makes or Breaks Relationships*. New York: Ballantine.

Tannen, D. (1994). Marked: Women in the Workplace. In *Talking from 9 to 5: Women and men at work*. New York: William Morrow.

Tocqueville, A. de. (1990). *Democracy in America*. (H. Reeve, Trans.) (Vol. II). New York: Vintage Classics.

Wetmore, J. M. (2009). Amish Technology: Reinforcing Values and Building Community. In *Technology and Society: Building Our Sociotechnical Future* (pp. 297–318). Cambridge, MA: MIT Press.

Revisions

Note that this syllabus is subject to revision, please refer to the latest copy posted on Collab.

Schedule

Section	Day	Topic/Theme	Reading	Assignment
Cultural Beings	21-Jan	Welcome & Orientation	Mahler, *Culture as Comfort*, chapter 1	
	26-Jan	Growing into a Cultural Being	Mahler, Chapters 2 & 3	
	28-Jan	Integrating into Groups	Mahler, Chapter 4	First Journal Entry Due Before Class
	2-Feb	Encountering "Others" and the Question of Structure	Mahler, Chapter 5	
	4-Feb	Cultural Categories, Social Evolution, & Structure	Tannen, "Marked: Women in the Workplace" (On scribd.com)	
	9-Feb	What to Do about This?	Mahler, Chapter 6	
	11-Feb	Sociotechnical Systems and Cross-Cultural Encounters	Law, "Technology and Heterogeneous Engineering"	
How Culture Shapes Our Perceptions & Interactions	16-Feb	Time and Progress	Sears & Cairns, "Making Time"	
	18-Feb	Local Views of Progress, seen through technology	Sahlins, "The Original Affluent Society" & Wetmore, "Amish Technology"	Paper -- Due Fri to Peer
	23-Feb	Communication: Beyond Translation	Tannen, "Pragmatics of Cross-Cultural Communication" AND "Workings of Conversational Style"	Peer Review Due Monday, 5pm
	25-Feb	How Interaction can go wrong	Basso, "Joking Imitations of Anglo Americans"	
	1-Mar	Individualism and Hierarchy	Tocqueville, *Democracy in American*, excerpts	Revised Paper Due Mon. at 5 pm
	3-Mar	Reciprocity as a Key to Sociality	Excerpt from Monaghan & Just, from Anthropology: A Very Short Introduction Piot, ,"Exchange," from Remotely Global	
	8-Mar	Spring Break!!		
	10-Mar			
	15-Mar	Global Forces in Local Places	Ferguson, "Globalizing Africa?,", from Global Shadows	
Case: Bali	17-Mar	Cultural Context: The Green Revolution & Balinese Ecology	Lansing, *Priests & Programmers*, Chapters 2 & 6 (On scribd.com)	

	22-Mar	Religious & Social Context: From Water Temples to Sociogenesis	Lansing, *Priests & Programmers*, Chapter 3 and Conclusion	
Cultures of Engineering	24-Mar	Introducing Engineering Cultures	Downey, ,"Low Cost, Mass Use,"	Interview Transcription/ Notes Due Friday
	29-Mar	Interview Debrief	Reading: Assigned Chapters from Downey Book	Interview Due Monday at 5
	31-Mar	National Styles of Drawing	Brown, "Design Plans" (Excerpts)	
	5-Apr	Engineering Identities in the Workplace	The Volkswagen Emissions Scandal	
	7-Apr	Global Engineering Case: Mobile Telephony in Nigeria	Odumosu, "Making Mobiles African"	
	12-Apr	Global Engineering Case: Boeing Dreamliner	Greising & Oneal, "The Global Factory"	
	14-Apr	Bridging the Gap: Appropriate Technology	Akubue, ,"Appropriate Technology for Development in Third World Countries"	
			Watch: Frontline/World ,"Play Pump,"	
	19-Apr	Engineering and Sustainable Community Development	Lucena et al, "Engineering with Community"	
	21-Apr	Engineering Cultures Work Session		
	26-Apr	Engineering Cultures Townhall		
	28-Apr	Engineering Cultures Townhall		
	3-May	Closing: On Cultivating Cultural Intelligence		
	Final Exam Period 9:30 Class: 5/9 2-5 pm, 12:30 Class: 5/10 2-5 pm -- Final paper due			