

SUST 434 - Synthesis of Sustainability Perspectives and Innovations - Fall 2016

(This document available at: <http://sust.unm.edu>)

Instructor:

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Office Hours: Tuesday 9:30 - 10:00 and Friday 11:00 – 11:30,
or by appointment at our convenience

Class sessions: Tuesday, Thursday 12:30-1:45 p.m. Mitchell Hall, Room 214

Required text: Matson, Pamela, W. C. Clark, and K. Anderson. 2016. Pursuing Sustainability: A Guide to the Science and Practice. Princeton University Press.

Supplemental materials drawn from:

1. Diamandis, P.H. and S. Kotler. 2012. Abundance: The Future is Better than You Think. Free Press.
2. Huesemann, M. and J. Huesemann. 2011. Techno-Fix: Why Technology Won't Save Us or the Environment. NSP.
3. Mullainathan, S. and E. Shafir. 2013. Scarcity: The New Science of Having Less and How It Defines Our Lives. Picador.
4. Seager, J. and L.S. Polansky, eds. 2016. The Good Crisis: How Population Stabilization Can Foster a Healthy U.S. Economy. Population Connection.
5. Stoknes, P. E. 2015. What We Think About When We Try Not to Think About Global Warming: Toward a New Psychology of Climate Action. Chelsea Green.
6. Toyama, K. 2015. Geek Heresy: Rescuing Social Change from the Cult of Technology. Public Affairs.

Course description:

Presents frameworks for complex and creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability: environment, equity, economy. Examines innovative local and international case studies in environment, business, policy, and community development. Prerequisites: SUST 134

Goals, purposes, and expectations: This course is suited for students interested in the theoretical and practical aspects of community development, local economies, resource conservation, community activism, and environmental protection.

This course provides the opportunity to integrate experiences and knowledge gathered in Introduction to Sustainability and Environment (SUST 134), Sustainability Practicum (SUST 334), and the electives students have taken toward the minor degree in Sustainability Studies. Students will engage in more complex levels of understanding the challenges of sustainability as they prepare for the capstone project ahead (SUST 499). Most students gravitate naturally to one or two of the three pillars of sustainability (environmental protection, social justice, and economic vitality). This course examines all pillars and the interactions among them. We will study frameworks for making meaning from complex situations and integrated design, including systems thinking and interdisciplinary philosophical underpinnings of sustainability. This will enable us to acquire a broader lens through which to design synergistic applications of sustainability's three pillars.

We engage in a caring, creative learning experience with responsible students and thereby gain perspectives that empower us all as agents of sustainability. From Steve Covey's *Seven Habits of Highly Effective People* we favor an outcome that is "win/win". Some languages have no words for "teaching" but over 30 words for "learning". Indeed we can only learn; learning is the basis of personal development and enrichment.

Plagiarism: The Faculty Handbook, policy D100, affords instructors the authority to respond to plagiarism by granting a grade of "...F' in the course and the involuntary withdrawal of the student from the class..." Avoid committing plagiarism by making all your work your own. Do not cut and paste from web sites, Dropbox, or articles. Brief, direct quotes are allowed but must be documented as such. *Always put quoted text within quotation marks or in a smaller italics font, with complete attribution to the source.*

Sexual misconduct, harassment, and assault:

"Our classroom and our university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. Should you ever need assistance or have concerns about incidents that violate this principle, please access the resources available to you on campus, especially the LoboRESPECT Advocacy Center and the support services listed on its website (<http://loborespect.unm.edu/>). Please note that, because UNM faculty, TAs, and GAs are considered "responsible employees" by the Department of Education, any disclosure of gender discrimination (including sexual harassment, sexual misconduct, and sexual violence) made to a faculty member, TA, or GA must be reported by that faculty member, TA, or GA to the university's Title IX coordinator. For more information on the campus policy regarding sexual misconduct, please see: <https://policy.unm.edu/university-policies/2000/2740.html> LoboRESPECT Advocacy Center, Women's Resource Center and the LGBTQ Resource Center have specially trained advocates and they do NOT share information with anyone else without a student's signed permission." Statement courtesy UNM Office Equal Opportunity.

Course design:

We focus on scholarship and theory with which to guide effective solutions for sustainability.

Grading	%	Notes
Midterm	10	Oct. 6. , Use reading summaries as your only open-book resource.
Final	15	Dec. 15 , 10:00 a.m. – noon. Reading summaries as only open-book resource.
<u>Looking within:</u>		
My Worldview	10	What do you believe? Sept. 8
Thirty days of The Method	10	Learn, practice for 30 days, and teach two new people. October 4
<u>Looking beyond:</u>		
Part-to-whole analysis	10	Graphical analysis of parts that add up to the whole. Oct. 20
Global Citizen Project research	10	Set priorities for global sustainability app. November 29
Group presentation	5	Group presents ideas to class, Nov. 29 & Dec. 1
<u>Portfolio:</u>		
Panel participation	5	Join a topical panel to share insights from one of your assignments.
Theory of Five Elements	10	Apply the Five Elements theory to a system of your choice. Nov.10
Reading summaries	<u>15</u>	Due on day of class for discussion.
	100	

Keep track of your assignments and due dates with this handy [assignment checklist](#).

SUST 434 - Schedule Fall 2016

Notes: 1) Where the column "Due for this class" lists "**Read...**", please complete and print the "Reading summary" to hand in for credit.

2) Assigned chapters from Matson et al. (2016) are listed as **M#** where # is the chapter number, followed by pages.

Date	Topics	Due for this class:	Resources	Activities
Aug 23	Introduction		Reading summary	Syllabus; Skills inventory; goals The course as Five Elements
25	Worldviews	Read Koltko-Rivera 2004 Read Heuesemann Ch. 12. For each, bring a Reading Summary to class, filled in.	Reading as a scholar SSP Writing Guide	Skills summary; Presentation: Questions prompted by Heuesemann Ch. 12 and Koltko-Rivera (2004) Discuss readings and world views. My Worldview assignment ; Kick-off exercise
30	What is sustainability science about? The NM situation	Read M1 (Matson ch. 1)	Trends and changes in New Mexico Ostrom (2009); Clark & Dickson (2003)	Panel signups; Grading criteria Discuss Matson chapter 1.

Sept. 1	Scarcity and Abundance	Read Mullainathan and Shafir (2013, Ch. 2) Read Diamandis ch. 2		Start your 30 days of practice. The Method Assignment The Method Log Chart to keep you on track Discussion: Scarcity v. Abundance mentality
6	Needs: Food	Read Diamandis Ch. 9		Table/Figure Exercise View: G. Pauli lecture (ISSS 2016)
8	Needs: Education	Read M2 pp. 14-31 (Goals) Read Berger & Fisher (2016) Worldview due		Presentation: Tribal BA attainment in NM Worldview Panel; Discussion: Education and M2
13	Eco-economics	Read M2 pp. 32-51 (Econ) Read Daly (1996)	Seppelt et al. (2014) peak resource use	Discuss M2 & Daly (1996; a classic)
15	Eco-economics updated	Read Czech (2016)		Discuss Czech (2016)
20	Dynamics and Systems of Five Elements	Read M3 pp. 52-64, Dynamics		Discuss M3 – Dynamics Presentation: Five Element systems and the Elements of a holistic theory for sustainability. Assignment: Application of Five Elements
22	Technologies of Abundance	Read Diamandis Ch. 6 The 9 technologies Read Toyama Ch 6 Amplifying people		Discuss Diamandis Ch. 6 Technology audit exercise

27	Systems Thinking	Read M3 pp. 64-82, Tipping points		Discuss M3 Presentation: Tipping points
29	Systems Thinking	Read Allen and Giampietro (2014)	Dunn & Milne (2014)	Discuss Allen and Giampietro (2014) Assign: Part-to-whole analysis Review for exam
Oct 4	Governance: Transportation	Read M4 pp. 83-94 Read Marcovitz (2016) The Method, gratitude jars		The Method Panel Discuss M4 pp. 83-94 Discuss Marcovitz (2016) Millennials & transportation policy
6	Midterm Exam	Midterm Exam		
11	Social psychology	Read M4 pp. 94-104 Read Stoknes Ch. 5		Presentation: Stoknes's solutions Discussion: M4 & Stoknes Ch. 5
13	Fall Break			
18	Demographics	Read Lee (2016)		Discuss Lee (2016)
20	Holistic analysis	Part-to-whole Assignment		Part-to-whole assignment due. Panel: Part-to-whole
25	Taking action	Read M5 pp. 104-116		Discuss M5 Presentation: Global Citizen Project
27	Innovation	Read Diamandis Ch 17		Discuss Diamandis Ch. 17 Form GCP working groups; brainstorming; value proposition; Assign: GCP project
Nov 1	FutureEarth	Read M5 pp. 116-128		Discussion: M5 Presentation: FutureEarth

3	Knowledge models			Discuss Knowledge models: Rosen, Rousseau
8	Holism: Five Elements	Read Laszlo 'Consciousness'		Presentation: Laszlo's theory Groups work on GCP
10	Five Elements	Five Elements		"Hypothesis I" as Five Elements Panel: Five Elements
15	Narrative legitimacy	Read M6		Discuss M6 Presentation: <i>Elements of a holistic theory for sustainability</i>
17	Global Citizen			Groups work on GCP
22	GCP work			Groups work on GCP
24	Thanksgiving	Break		
29	GCP	GCP due		Outcomes and critiques
Dec 1	GCP			Outcomes and critiques
6	GCP			Panel: GCP
8	Evaluation & review	Bring questions to ask about the exam	Trajectory of a Graduate Student	Discussion: Career Paths for This Generation. Review for exam
15	Final Exam	10:00 a.m. – noon		