

SUST 434 - Synthesis of Sustainability Perspectives and Innovations - Spring 2014

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Instructor:

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

Class sessions: Tuesday, Thursday 12:30-1:45 p.m. Mitchell Hall, Room 219

Book: Diamandis, P. and S. Kotler. 2012. Abundance: The Future Is Better Than You Think. Free Press. ISBN 9781451614213

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 334

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 or articles. Brief, direct quotes are allowed but must be documented as such. Always put quotes in quotes or in a smaller italics font, with complete attribution to the source.

Course design:

We focus on research questions, skills, scholarship, and theory with which to test effective solutions for sustainability.

Grading	%	Due dates
Midterm	20	March 4
Final	20	May 15, Thursday 10:00 a.m. – noon.
Logic model	5	Feb. 20
Mini-proposal w/ 8 refs	10	Feb. 27
Report w/ 10+ refs	15	May 6
Exercises and assignments	20	Various
Reading Diary Forms		
Presentation	10	May 6 & 8

SUST 434 - Schedule Spring 2014

Notes: 1) Where “Due for *this class*” lists “Read...”, please complete the “[Reading Diary Entry](#)” to hand in for credit.

2) Assigned chapters from *Abundance* are listed, e.g., “A 1-3” means *Abundance*, chapters 1-3

Topics	Due for <i>this class</i> :	Resources	Activity
Jan 21 What is Research in Sustainability?		General readings Mooney (2011) Qualitative research	Syllabus; Skills inventory
23 <i>Pollinators & Pesticides</i>	Read Visscher & Seeley (1982) ReadingDiaryEntry See Fall 2013 findings	Native & domestic USDA (2012) Beyond Pesticides Gardeners Beware	Discuss Visscher & Seeley (anatomy of a paper) Form research groups Discuss A 1-3
28 <i>Study Design, Questions & Hypotheses</i>	Study design	Grad Res. Center	
30 <i>Randomization and t-tests</i>	Review t-test worksheet		t-test worksheet
Feb 4 Biomimicry & Dynamics	Read Tero et al. (2010)	Biomimicry	
6 <i>Laws of Complexity</i>	Read Bettencourt et al. (2007) Brown et al. (2011) A 4-6		Discuss A 4-6
11 <i>Thresholds & Resilience</i>	Read Scheffer et al. (2012)	Holling (2001)	
13 Research group kickoff	Read Reid et al. (2010)		Organize groups

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18 Being a Sustainability Scholar	A 10-12	Logic model blank Pillars of Sustainability Scholarship Guide	Discuss A 10-12 Review logic model Review guide
20 <i>Literature as time machine</i>	Review the library exercise Hand in logic model		Literature Kick-off Review mini-prop template Proposal kickoff
25 <i>Proposal preparation</i>		Writing Guide 10 commandments	Pet peeves exercise Tables & Figures
27 <i>Groups share proposals</i>	Hand in mini-proposal	Midterm review	Groups share proposals
Mar 4 Midterm Exam -----			
6 Water-Food-Nexus	Read Foley (2011) A 7-9, 13	Costanza et al. (1997) Costanza et al. (2009) Howarth et al. (2002) Leach et al. (2013)	Foley (2011) Discuss A 7-9, 13
11 <i>Water and energy balance</i>	Read Stephenson (1990)	Water balance m-file	
13 <i>Benefits of biodiversity</i>	Read Worm et al. (2006)	Naeem et al. (2012)	Discuss “effect size”
18 & 20 Spring Break			
25 <i>Research progress</i>	Draft research report Group updates		Hear updates from groups

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27 Foodshed Development	Read Kloppenburg et al. (1996)	Video “Vegucated”	
Apr 1 <i>Optimal foodsheds</i>	Read Peters et al. (2008)	LP-Optimization	
3 <i>Value chains</i>	A 14-16	Value Chain Handbook	Discuss A 14-16 Hand back drafts
8 <i>Public health components</i>	Read \$11 Trillion Reward		
10 <i>Innovations in nutrition and health</i>	Read Valesquez (2013)	NYT Purple Food	
15 Research project activity			Group progress
17 Research project activity	A 17-19		Discuss A 17-19 Reflection piece assignment
22 Research project activity			
24 Research project activity	<i>Abundance</i> reflection piece (2-3 pages, double spaced)	Review oral presentation guide Review oral evaluation criteria	
29 Research project activity			

Topics	Due for <i>this class</i>:	Resources	Activity
May 1 Career Paths in Sustainability		<u>Trajectory to grad school</u>	Review trajectory Review oral guide
6 Oral presentations	Research report 3-minute presentations	<u>Oral presentation guide</u> <u>Oral evaluation criteria</u>	½ class presents
8 Oral presentations	3-minute presentations		½ class presents
15 Final exam	Final exam	<u>Review materials</u>	