

SUST 434 - Synthesis of Sustainability Perspectives and Innovations - Fall 2019

[UNM Semester Deadline Dates](#)

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 115

Texts (required): Hawken, P. (Ed.). 2017. Drawdown: The Most Comprehensive plan Ever Proposed to Reverse Global Warming. Penguin Books.

Other assigned readings (excerpts provided via LEARN):

Capra, F. and P. L. Luisi. 2014. The Systems View of Life: A Unifying Vision. Cambridge University Press.

Friedman, Thomas L. 2016. Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations.

Farrar, Straus and Giroux, New York. 486 pp. Hardcover ISBN: 978-0-374-27353-8. Ebook ISBN: 978-0-374-71514-4.

Huber, P.W. and M.P. Mills. 2005. The Bottomless Well. Basic Books.

Jackson, M. O. 2019. The Human Network: How Your Social Position Determines Your Power, Beliefs, and Behaviors. Pantheon Books.

ISBN 9781101871430 (paper); ISBN 9781101871447 (ebook).

Lerch, D. (Ed.). 2017. The Community Resilience Reader: Essential Resources for an Era of Upheaval. Island Press.

McBay, A. 2019. Full Spectrum Resistance. Volume 1. Seven Stories Press, New York. ISBN 9781609809119 (paper).



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. We frame our studies within the context of the "Age of Acceleration" that involves the ongoing development of technologies, coupled to globalization and climate change.

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 with challenges of sustainability as they prepare for the capstone project (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 view with 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:

The following statement is courtesy UNM Office Equal Opportunity. "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."

Class courtesy: Please refrain from using electronic devices in class except to support our learning process.

Please do not saunter out of the room without asking permission, as your absence will stall learning activities of the entire class.

Accessibility Resource Center (UNM boilerplate): "In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as I am not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow. Contact Accessibility Resource Center at 277-3506 for additional information. If you need an accommodation based on how course requirement interact with the impact of a disability, you should contact me to arrange an appointment as soon as possible. At the appointment we can discuss the course format and requirements, anticipate the need for adjustments and explore potential accommodations. I rely on the Disability Services Office for assistance in developing strategies and verifying accommodation needs. If you have not previously contacted them I encourage you to do so."

Late assignments: Due dates are firm. Late assignments will lose 10%.

Grading: A+ >99%; A 93-99%; A- 90-93%; B+ 87-89.9%; B 83-87%; B- 80-83%; C+ 77-79.9%; C 73-77%; C- 70-73%; D+ 67-69.9%; D 63-67%; D- 60-63%; F <60%; C/NC not allowed

<u>Assignments</u>	<u>%</u>	<u>Due</u>
Reading summaries	20	Beginning of class.
Service with activist organization	20	December 3. Diary and reflection assignment.
Nonprofit design for Drawdown Solution(s)	20	Team presentation (30%); Individual papers (70%) due November 21.
Midterm	20	October 8, in class.
Final	20	December 12, 10:00 am - noon

Overview and Strategic Design:

Premise: Recent semesters of SUST 434 revealed trends in climate, technology, and markets that conspire to create a world of rapid change, so rapid that humans struggle to keep up. Friedman's (2016) conclusion is that professionals must be life-long learners. The purpose of a college education is to master the skill of "learning how to learn" so that learning can continue. Wenger (2000) sees learning as a collective enterprise that occurs within communities of practice. This is appropriate for sustainability because of the social equity pillar and because of policies that currently fail to meet the sustainability challenge. This semester, in response to the global climate strike on September 20 and related movements, we engage with practical and theoretical approaches to human social networks, especially as they inform recent efforts to organize grass-roots movements. Overall, we use systems thinking and holism, which frame the world as reciprocal relations between parts and the whole.

Grooming for SUST 499: Your path through the Sustainability Studies minor goes from SUST 434 to 499. In SUST 499, you develop your own "signature" capstone project, stretching over two semesters. This semester, some class sessions, visitors, and assignments will help position you for a more powerful 499 experience.

Co-creating our shared experience: Assignments lead to deliverables of direct value to each student. By being transparent and accountable to each other, our individual and collective effectiveness will last as a future reminder of how best to adapt and engage with challenges in an uncertain world of rapid change.

Concepts:

Abundance mentality Activism Moore's law Systems thinking Holism Scaling Footprints Biocapacity Biodiversity
Stability Tipping point Resilience Globalization Human social networks

Part I. Systems Concepts and Principles

Please read assignments *before class* and hand in reading summaries. Please complete, print, and bring to class a reading summary for readings identified with **Read***.

From Einstein to artists, many agree that the whole of the world is composed of parts, which by virtue of interactions and relationships beget the whole (see Smuts 1926). Systems thinking embodies holism and leads to concepts of tipping points and resilience. Systems thinking is the conceptual glue by which the three pillars of sustainability satisfy the whole.

Week 1 -----

Aug. 20 *Introductions & Inventory of Your Skills and Interests*

Aug. 22 *A first look at the big picture, sustainability challenges, and opportunities*

Read* Burger et al. 2012. This warms us up to the content and challenge of sustainability while exercising our critical thinking and reading skills as scholars.

Supplement: Pinker Chapter 21 - Reason

Resource: Reading and writing like a scholar

Week 2 -----

Aug. 27 *Systems Thinking Overview*

Read* Capra and Luisi, Chapter 17 – Connecting the Dots

Aug. 29 *Systems Concepts and Overview of Holism*

Read* Walker and Salt, Ch. 9 from Community Resilience Reader. This is always a popular selection among SUST 434 students.

Supplement Nesbet, Chapter 5 The “Evil Twin”, leading to

Supplement Nesbet, Chapter 6 “Regime Shift”

Supplement Holling (2001) A classic theory of systems and how they collapse and re-organize.

Part II. Human Networks, Activism, and Sustainability Movements Now

September 20, 2019 is the global climate strike, with Greta Thunberg inspiring youth and others to demand immediate action by governments to deal with the climate crisis. To prepare for the strike, we will cover the practical and theoretical basis of social movements. Later in the course, you will apply the concepts to design a grassroots organization capable of fighting for one or more of the solutions in “Drawdown.” For a second assignment, this section equips you to be an observant, effective participant and critical evaluator of an existing activist organization with which you will volunteer for six hours and write a reflection piece about your experience.

Week 3 -----

Sep. 3 *Why We Fight – Why We Believe*

In plain language, Aric McBay calls out the crisis we face and calls for action. Subsequent selections from his book amount to a handbook for activism. This week, we’ll juxtapose McBay with Matthew O. Jackson’s evidence from studies of human networks that justify, from a theoretical standpoint, many of McBay’s claims. As we move through this part of the course, you are encouraged to compare and contrast these two authors and create your own synthesis of both perspectives. Chances are you will start to notice these dynamics in everyday life.

Read* McBay (2019). Pages 1-33

Sep. 5 *Human Networks 101*

Read* Jackson (2019). Pages 11-33, 40-43

Week 4 -----

Sep. 10 *Diffusion Centrality & The Overton Window*

Have you ever wondered how the Google search engine works? Indeed, network theory again! Ditto epidemics and shifting belief systems, erosion of bipartisanship, etc. Yikes, networks everywhere!

Read* Jackson (2019) Pages **44-54** Diffusion centrality, epidemics; **66-67** (summary)

Read* McBay (2019) Pages **81-89** Overton Window; **98-106** Diversity of Tactics; **137-135** Practicalities & Principles.

Sep. 12 *Homophily & Activism Cultures*

Activism implies adversarial relations. How do people end up in opposing groups? Network theory explains how people and neighborhoods become segregated. Even within activist communities, there is segregation along philosophical lines, so strong that movements can wither and die by division from within. Here we become literate in the ways of segregation, better equipped to avoid it by fostering inclusivity.

Read* Jackson (2019) pages **106-116**. Learn to think like a Nobel laureate!

Read* Mcbay (2019) pages **39-49** (categories) and **76-80** (cultures of resistance)

Week 5 -----

Sep. 17 *Recruiting Activists and (Avoiding) the Dynamics of Dropout*

Read* McBay (2019) pages 137-153 (recruiting activists).

Read* Jackson (2019) pages 151-159 (dropouts). How can you use this theory to *prevent* activists from dropping out?

Sep. 19 *Real Live Activists Panel*

It is one day before the global climate strike! What wisdom can we learn from experienced activists?

Write down and bring two discussion questions for the panel.

Week 6 -----

Sep. 24 *When Resistance Turns Violent*

Guest speaker: Ben Warner, UNM Geography and Environmental Studies

Sep. 26 Work day: *Arranging your volunteer experience*

With many suggestions in hand, you will **spend time out of class** calling, emailing, and/or visiting activist organizations that could host your six hours of volunteer work. Lock in a host and bring the commitment form to class next time.

Week 7 -----

Oct. 1 *Applied: Drawdown – Toward Zero Carbon and basic NGO design*

Read* (Submit special form for this selection) Drawdown pp. ix – xiv

Instead of the usual summary form, please submit the following. (1) As you read each paragraph, write a keyword or phrase that captures the meaning of the paragraph. (2) Especially for page xiv, write down the definitions of "gigaton of carbon" and "total net cost." (3) As described in the section "To learn more" please visit drawdown.org, scroll down to the featured videos, watch one that interests you, and write a paragraph about what you learned. The learning goal is to become familiar with the book, its mission, and the general methods they used. Please browse the remainder of the book and see what kinds of solutions capture your interest. We'll use your preferences to form teams for the NGO activism project.

Assignment: Design a NGO for Drawdown

Assignment: Volunteer with a local activist organization

Resource: [How to reduce your carbon footprint](#)

Oct. 3 *Basics of NGO design*

Activity: Review for midterm

Week 8 -----

Oct. 8 **Midterm Exam**

Oct. 10 **Fall Break**

Part III. The Elements and Values of Holistic Sustainability

Week 9 -----

Oct. 15 *Sustainability is Holistic*

Read* [Milne \(2017\)](#) - *A framework for holistic sustainability*

Supplement: Smitsman et al. (2018) “...wholeness itself is the organizing principle... is causality...”

Oct. 17 *The Element of Openness/Closure*

Read* [Berry \(1988\)](#) – *Philosophy of holism guides sustainability*

Supplement: Obituary of ‘geologist’ Thomas Berry, NYT 2009

Insights applied: Failed states

Supplement Nesbet (2018) Chapter 16 (Yemen)

Supplement Nesbet (2018) Chapter 17 (Syria)

Week 10 -----

Oct. 22 *Closing local food systems: Concept for city-wide fruit justice project*

Oct. 24 *Moore’s law technologies of abundance*

Read* Friedman (2016; Chapters 2 & 3)

Supplement: [Chapter 6](#) from Diamandis, P.H. and S. Kotler. 2012. *Abundance: The Future is Better than You Think*. Free Press.

Supplement: Critical view about technology [Chapter 12](#) from: Huesemann, M. and J. Huesemann. 2011. *Techno-Fix: Why Technology Won’t Save Us or the Environment*. NSP.

Week 11 -----

Oct. 29 *Urban Dynamics, Scale and Scaling – The Hallmark of Systems Organization*

Supplemental classic paper: [Bettencourt et al. \(2007\)](#), or watch [Geoff West TED talk](#)
Supplement: Bettencourt (2013). The Origins of Scaling in Cities

Oct. 31 *The Element of Energy and Economy*

Read* Fairchild & Weinrub Ch. 11 Energy Democracy in CRR
Read* Huber and Mills (2005) Chapter 1 “The Twilight of Fuel and the Ascent of Power”
Read* Huber and Mills (2005) Chapter 3 “The Virtue of Waste”
Supplement Huber and Mills (2005) Chapter 7 “The Paradox of Efficiency”
Supplement: [Garrett \(2011\)](#) – *Energy use drives the economy*

Week 12 -----

Nov. 5 *The Element of Organismal Experience*

Read* [Rees \(2017\)](#) *Human evolutionary psychology*
Supplement: Capra & Luisi, Ch. 7 What is Life?
Supplement: [Ernest et al. \(2003\)](#) – *Solidarity with all organisms*

Nov. 7 *Applied: Biodiversity: Ecosystem functions, stability, resilience, and tipping points*

Read*: [Barnosky et al. \(2012\)](#) Approaching a regime shift in the biosphere
Supplement: [Worm et al. \(2006\)](#)
Supplement: [Scheffer et al \(2012\)](#)
Supplement Nesbet (2018) Chapter 2 “Species Move”
Supplement Nesbet (2018) Chapter 3 “The Third Pole”

Week 13 -----

Nov. 12 *The Element of Consciousness/Cognition*

Read* Capra and Luisi, Chapter 12

Supplement: Friedman (2016; [Chapter 2](#)) - *How does technology create challenges for us?*

Nov. 14 *Applied: Life, Mind, and Society*

Read* Capra and Luisi, Chapter 14

Week 14-----

Nov. 19 *The Element of Narrative Legitimacy*

Read* [Koltko-Rivera \(2004; the printed pp. 3-5, 27-40, not the pdf page numbers\)](#) - *Theory of worldview*

Supplement Pauli ([1998; Chapter 3](#)) – *Western v. indigenous/Asian worldview*

Nov. 21 *Drawdown Presentations: NGO design groups 1-3*

All written NGO reports are due for all groups.

Week 15 -----

Nov. 26 *Drawdown Presentations: NGO design groups 4-6*

Nov. 28 Thanksgiving Break

Week 16 -----

Dec. 3 *Experience Exchange: Outcomes of Volunteer Projects*

Due: Volunteer Reflection and Analysis Assignment

Dec. 5 Review

Week 17-----

Dec. 12 **Final Exam 10:00 am – Noon**