



LANDSCAPE AT THE INTERSECTION OF LIFE AND DEATH

“We find it hard to escape the ‘resolutely flat perspectives’ to which we have become habituated...[which is both] a political failure as well as a perceptual one, for it disinclines us to attend to the sunken networks of extraction, exploitation and disposal that support the surfaced world.” –Robert Macfarlane, *Underland: A Deep Time Journey*, 2019

“It could be argued that within the productionist model the drive of soil care has mostly been for the crops...In the utilitarian–care vision, worn–out soils must be ‘put back to work’ through soil engineering technologies: fed liters of artificial fertilizers with little consideration for wider ecological effects or made host for enhanced crops that will work around soil’s impoverishment and exhaustion. In sum, soil care in a productionist frame is aimed at increasing soil’s efficiency to produce at the expense of all other relations. From the perspective of a feminist politics of care in human–soil relations, this is a form of exploitative and instrumentally regimented care, oriented by a one–way anthropocentric temporality.”

–Maria Puig de la Bellacasa, *Matters of Care: Speculative Ethics in More than Human Worlds*, 2017

Course Description:

In this semester-long design-research studio, we turn our attention downward, to the literal foundation of landscape – the soil. As physical material, soil refers to the thin layer of earth, composed by organic matter and organized into “horizons” – extending from the thin yet nutritious layer of “humus” at the top to the solid bedrock below. As an environmental system, soil is considered one of the most crucial elements of the climate, being the second largest store of carbon after the ocean. As living matter, soil is composed of billions of microbes and micro-organisms such as fungi, bacteria, protozoa, nematodes, arthropods and earthworms – a symbiotic collective known as the soil biota. The biota plays a vital role in determining how well the ecosystems and the life that it supports function above grade. Spatially, soil is where “we have long placed that which we fear and wish to lose, and that which we love and wish to save,” in the words of the British writer, Robert Macfarlane. And temporally, soil is the visible evidence of a number of dynamic processes, including: additions, losses, transformations, and translocations – spanning timescales that are too long to seem comprehensible to the human. Beyond the sciences, subterranean lifeworlds have activated the social and literary imaginary across cultures and through time. And yet, all the while, our anthropocentric perspective and attitude towards soil, like that toward most landscape matter, continues to be largely productionist – focusing on its resource-value at the expense of all other relations – as the introductory statement from de la Bellacasa so eloquently frames.

Situating these varied and layered dimensions of soil within the near-catastrophic environmental context projected for the next century, particularly the looming threat of mass extinction that threatens our more-than-human partners, the studio will focus on Soil Building Processes by rethinking the future of burial landscapes through mortuary composting procedures. Interrogating our position in our environmental future, we will consider the types of future relationships that we might form with soil, putting in place acts of care that go beyond the exploitative and instrumentally regimented stewardship described by de la Bellacasa. We will consider how our bodies could facilitate this new form of co-existence, and how design could enable and accommodate this necessary exchange. Our collective efforts toward climate restoration will require not just innovative technologies, but social and economic transformation – a shift in our thinking about the biophysical world and our role and responsibility in it. We will tackle these challenges and more as we sift through the varied layers of soil – to ultimately address a more ethical way of living (and dying) in the ruins of what we have created.

Course Structure:

The semester will be broken down into three parts presenting three different scales of inquiry. We will begin with a focus on soil as a climate system (on the macro scale), zooming into our region to identify zones of opportunities for intervention. In the second part of studio we will focus on the body scale, engaging burial practices and the cemetery landscape within the context of mass extinction – particularly the destruction of a habitable world for many of the earth’s species, including the near-extinction of our own. And finally, we will descend into the depths of soil in the third part of the semester to consider the microbial scale and the processes of soil-building involved at the micro-scale. We will hopefully resurface at the end of the semester with site-scaled strategies and a renewed vision of a future world built on more collaborative and cooperative intraspecies relations.

Topics

- Part 1: Soil as Climate System (4 weeks)
- Living Soils + Soil Science
 - Soil Futures (projections)
 - Hotspots + Zones of opportunity
- Part 2: Burial Practices (5 weeks)
- Mass Extinction
 - Cemeteries
 - Soil toxicity and burial practice
- Part 3: The Future of Death (6 weeks)
- Ecological Grief
 - Death as Process
 - Multispecies Collaborations

Activities

- Part 1: Mapping Soils
- Drawing Soil
 - Mapping Soil Futures
 - Organizational Strategies
- Part 2: Burial Practices
- Mortuary Composting Procedures
 - Earth Forming Practices
 - New Rituals
- Part 3: Site Design
- Soil Catalog
 - Deep Sections
 - Temporal Animations

Deliverables: ... Assignments will be distributed in detail over the semester...

LEARNING OBJECTIVES AND OUTCOMES

In-class exercises, assigned readings, discussions and studio assignments in this course are designed to support the following goals:

1. Analysis: Demonstrate ability to gather, assess, record, and comparatively evaluate relevant information, data, and performance in order to support ideas across design scales.
2. Design-Research: Demonstrate ability to raise clear, precise critical questions, use abstract ideas to interpret information, consider diverse points of view, develop well-reasoned theories, take a position and test alternative outcomes against relevant criteria and standards.
3. Strategic Design: Demonstrate ability to identify site specific themes/ issues that materialize and anchor the vision in tangible projects at a number of scales that address localized systems and communities.
4. Design Innovation: Demonstrate ability to design bold multi-purpose landscape systems, which address future paradigms and spatially and ideologically challenge the status quo.
5. Technical Innovation: Demonstrate technical mastery and specificity of analog and digital media and its appropriateness in depicting material properties, static and dynamic states, future projections, and across multiple scales through innovative processes of media-making.

DESCRIPTION AND ASSESSMENT OF ASSIGNMENTS

Requirements for each of your assignments will be handed out in writing in advance. Full completion of assignments is expected and required for success in this course.

Your assignments will be evaluated based on the following criteria:

Research: You will be evaluated based on the ability to conduct proper, cited research.

Process: You will be evaluated on the iterative process of making. You are expected to take risks and engage in design exploration. Your project must develop over time and respond to critique.

Intent: You will be evaluated based on the ability to articulate your rationale in all aspects of your work including the following: verbal, visual, digital, technical, and physical modelmaking.

Craft: You will be evaluated on the quality of your drawings, models and verbal presentation, which demonstrate your mastery of verbal, visual, technical, and graphic skills.

Participation in discussions of readings, during pinups and desk crits is also required for success in this course.

GRADING BREAKDOWN

Assignments	80%
<u>Assignment 1:</u> Mapping Soil Imaginaries: investigating planetary soil systems (Plot/Mapping)	13%
<u>Assignment 2:</u> Territorial Logics: structuring zones of opportunity + organizational strategies (Plot/Model)	13%
<u>Assignment 3:</u> Burial Practice: investigating soil toxicity + burial systems (Deep Sections)	13%
<u>Assignment 4:</u> Soil Building Strategies: investigating soil building + mortuary composting + earth forming practices (Sectional Perspectives)	13%
<u>Assignment 5:</u> Site Strategies: structuring time and change (Temporal Drawings/Models)	13%
<u>Assignment 6:</u> Site Design: structuring experiential qualities + new rituals (Design Drawings/Models)	15%
In-Class Activities	20%
<u>In-Class Exercise 1:</u> Personal Narrative (Written/Drawn)	5%
<u>In-Class Exercise 2:</u> Soil Catalog (Field Collections)	5%
<u>In-Class Exercise 3:</u> New Rituals (Game)	5%
<u>Reading Discussions</u>	5%

GRADING SCALE

Course final grades will be determined using the following scale:

A	95–100	C	73–76
A–	90–94	C–	70–72
B+	87–89	D+	67–69
B	83–86	D	63–66
B–	80–82	D–	60–62
C+	77–79	F	59 and below

ASSIGNMENT SUBMISSION POLICY

Please upload high resolution files in the appropriate format (jpeg, pdf, etc), 3D model files, and properly photographed images of completed assignments to the Google Drive folder for the course here: <https://drive.google.com/open?id=1iBYNF84mZFa3a1mocsi4nQC7Pxgas27>

GRADING TIMELINE

I will provide regular feedback during pinups and desk–crits. I will additionally meet with each of you individually following your midterm and final reviews to recap comments from the critics and to discuss your progress. I am also available during office hours should you need course feedback at any point during the semester.

COURSE NOTES

Students are expected to be in class during the designated timeframe (Mon/Wed/Fri 2PM–5:50PM). While the schedule might vary from week to week, we will try to devote Mondays and Wednesdays to desk–crits and Fridays to pinups. Discussions around the topics raised through the readings will usually take place during the first half of the course on Fridays, along with any scheduled field–trips and lectures. The second half of the day on Fridays will be devoted to group crits.

TECHNOLOGICAL UTILIZATION

We will utilize ArcGIS, Adobe Illustrator, Photoshop, After Effects, Rhinoceros 3D, Rendering Engines (of your choice), Laser cutting, Physical modeling, and Photogrammetry. While I will make myself available during office hours for help with technology, students who have not had exposure to specific software utilized in the class are expected to practice on their own using online instruction through Lynda.com available to USC students for free through the MyUSC portal. Focus will be given to visualization techniques that describe the material specificity of soils, and the temporal dynamics of the projects.

COURSE READINGS AND SUPPLEMENTARY MATERIALS

Course readings will be used as reference and as theoretical foundations to the practical work of the studio. Readings can be accessed via the Google Drive folder for this course: https://drive.google.com/open?id=1PnnvHJT2FjfmJhVOyQ1VRKGL2UG_q6xM. In addition to the readings, certain resources such as environmental reports and studies will be made available in the Resources folder on the Google Drive. Links to relevant websites will be listed in the syllabus following the bibliography for the course.

COURSE SCHEDULE: A WEEKLY BREAKDOWN (SUBJECT TO UPDATES)

<u>WEEK</u>	<u>DATE</u>	<u>CONTENT: DAILY ACTIVITIES / TOPICS / DELIVERABLES</u>
Week 1	01/13	<u>Monday</u> : Course Introduction Assign Personal Narratives
	01/15	<u>Wednesday</u> : Review Narratives + Assign Research Categories
	01/17	<u>Friday</u> : Desk-crits: Soil Systems Research
Week 2	01/20	<u>Monday</u> : MLK Day – No Class
	01/22	<u>Wednesday</u> : Lecture: Mapping Soil Imaginaries Desk-crits: Soil Systems Research
	01/24	<u>Friday</u> : Pinup + Discussion: Soil Research Progress
Week 3	01/27	<u>Monday</u> : Desk-crits: Soil Systems Research Mapping Soil Imaginaries
	01/29	<u>Wednesday</u> : Desk-crits: Soil Systems Research Mapping Soil Imaginaries
	01/31	<u>Friday</u> : Pinup + Discussion: Mapping Soil Imaginaries Draft
Week 4	02/03	<u>Monday</u> : Pinup Assignment 1: Mapping Soil Imaginaries Introduce Assignment 2: Territorial Plots
	02/05	<u>Wednesday</u> : Assignment 1: Mapping Soil Imaginaries Due Desk-crits: Territorial Logics: organizational strategies
	02/07	<u>Friday</u> : Lecture: Organizational Strategies Pinup + Discussion: Territorial Plots Progress
Week 5	02/10	<u>Monday</u> : Desk-crits: Territorial Plots: organizational strategies
	02/12	<u>Wednesday</u> : Desk-crits: Territorial Strategies: zones of opportunity
	02/14	<u>Friday</u> : Pinup + Discussion: Territorial Strategies Progress
Week 6	02/17	<u>Monday</u> : Presidents Day – No Class
	02/19	<u>Wednesday</u> : Desk-crits: Territorial Strategies: zones of opportunity
	02/21	<u>Friday</u> : Pinup + Discussion: Territorial Strategies Draft
Week 7	02/24	<u>Monday</u> : Pinup Assignment 2: Territorial Strategies Introduce Assignment 3: Burial Practice + Assignment 4: Soil Building Strategies
	02/26	<u>Wednesday</u> : Assignment 2: Territorial Strategies Due Desk-crits: Burial Practice + Soil Building Strategies
	02/28	<u>Friday</u> : Pinup + Discussion: Burial Practice Progress + Soil Building Strategies Progress
Week 8	03/02	<u>Monday</u> : Desk-crits: Burial Practice + Soil Building Strategies
	03/04	<u>Wednesday</u> : Desk-crits: Burial Practice + Soil Building Strategies
	03/06	<u>Friday</u> : Pinup Assignment 3: Burial Practice + Assignment 4: Soil Building Strategies Discuss Board Layout for Midreview
Week 9	03/09	MIDTERM REVIEW

Week 10	03/16	SPRING RECESS
Week 11	03/23	<u>Monday</u> : Introduce Assignment 5: Site Strategies In-Class Exercise: New Rituals
	03/25	<u>Wednesday</u> : Desk-crits: Site Strategies
	03/26	Danika Cooper Lecture: Required
	03/27	<u>Friday</u> : Pinup + Discussion: Site Strategies Progress
Week 12	03/30	<u>Monday</u> : Desk-crits: Site Strategies
	04/01	<u>Wednesday</u> : Field Trip/Field Collections: In-class Exercise Soil Catalog
	04/03	<u>Friday</u> : Aroussiak in Philadelphia – Working session
Week 13	04/06	<u>Monday</u> : Desk-crits: Site Strategies
	04/08	<u>Wednesday</u> : Desk-crits: Site Strategies
	04/10	<u>Friday</u> : Pinup + Discussion: Site Strategies Progress
Week 14	04/13	<u>Monday</u> : Pinup Assignment 5: Site Strategies + Soils Catalog Introduce Assignment 6: Site Design
	04/15	<u>Wednesday</u> : Assignment 5: Site Strategies + Soils Catalog Due Desk-crits: Site Design
	04/17	<u>Friday</u> : Pinup + Discussion: Site Design Progress
Week 15	04/20	<u>Monday</u> : Desk-crits: Site Design
	04/22	<u>Wednesday</u> : Desk-crits: Site Design
	04/24	<u>Friday</u> : Pinup + Discussion: Site Design Progress
Week 16	04/27	<u>Monday</u> : Desk-crits: Site Design
	04/29	<u>Wednesday</u> : Desk-crits: Site Design
	05/01	<u>Friday</u> : Pinup Assignment 6: Site Design Discuss Final Board Layout of Semester Work
Week 17	05/04	STUDY DAYS – PRODUCTION
Week 18	5/11	FINAL REVIEW

COURSE RESOURCES

Richard Weller's Atlas for the End of the World: https://atlas-for-the-end-of-the-world.com/world_maps_main.html#world_map_target

Institute for Advanced Sustainability Studies Soil Atlas: https://www.iass-potsdam.de/sites/default/files/files/soilatlas2015_web_english.pdf

Food and Agriculture Organization of the United Nations Soils Portal:
<http://www.fao.org/soils-portal/en/>

United Nations Convention to Combat Desertification:
<https://www.unccd.int/convention/about-convention>

United Nations Department of Economics and Social Affairs World Population Prospects:
<https://population.un.org/wpp/Publications/>

United Nations Environment World Conservation Monitoring Centre: <https://www.unep-wcmc.org/resources-and-data/world-dryland-areas-according-to-unccd-and-cbd-definitions>

Global Soil Partnership Technical Report: <http://www.fao.org/3/a-i3161e.pdf>

World Soil Information: <https://www.isric.org/>

Critical Ecosystem Partnership Fund Biodiversity Hotspots: <https://www.cepf.net/our-work/biodiversity-hotspots/>

Kiss the Ground: <https://kisstheground.com/>

Washington Post: A Secret Weapon to Fight Climate Change: Dirt:
https://www.washingtonpost.com/opinions/2015/12/04/fe22879e-990b-11e5-8917-653b65c809eb_story.html

New York Times: Can Dirt Save the Earth?:
<https://www.nytimes.com/2018/04/18/magazine/dirt-save-earth-carbon-farming-climate-change.html>

The Berkshire Edge: Enrich the Soil, Cool the Planet: <https://theberkshireedge.com/enrich-the-soil-cool-the-planet/>

USA Soils Map:
<https://www.arcgis.com/home/item.html?id=c2b408ba5c0a4fe1a79377906935c1a4>

Arup 2050 Scenarios: Four Plausible Futures:
<https://www.arup.com/perspectives/publications/research/section/2050-scenarios-four-plausible-futures>

BIBLIOGRAPHY

- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham: Duke U. Press, 2010
- Bryant Logan, William. *Dirt: The Ecstatic Skin of the Earth*. New York: W.W. Norton&Co, 1995
- Buck, Holly Jean. *After Geoengineering: Climate Tragedy, Repair, and Restoration*. New York: Verso 2019
- Coeio. "The Infinity Burial Suit." Accessed May 18, 2019. <http://coeio.com>.
- Di Palma, Vittoria. *Wasteland: A History*. New Haven: Yale U. Press, 2014
- Faison, Seth. "Lirong Journal; Tibetans, and Vultures, Keep Ancient Burial Rite." *New York Times*, July 3, 1999. <https://www.nytimes.com/1999/07/03/world/lirong-journal-tibetans-and-vultures-keep-ancient-burial-rite.html>
- Franzmeier, Donald, William McFee, John Graveel, Helmut Kohnke. *Soil Science Simplified*. Long Grove, Illinois: Waveland Press, Inc., 2016
- Haraway, Donna. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke U. Press, 2016
- Haraway, Donna. *When Species Meet*. Minneapolis: U. of Minnesota Press, 2008
- Kolbert, Elizabeth. *The Sixth Extinction*. New York: Henry Holt&Co, 2014
- Macauley, David. *Elemental Philosophy*. Albany: SUNY Press, 2010
- Macfarlane, Robert. *Underland: A Deep Time Journey*. New York: W.W. Norton&Co, 2019
- Margulis, Lynn. *Symbiotic Planet: A New Look at Evolution*. New York: Basic Books. 1998
- Menning, Nancy. "Environmental Mourning and the Religious Imagination." In *Mourning Nature: Hope at the heart of ecological loss and grief*, edited by Ashlee Cunsolo and Karen Landman, 39–63. Montreal: McGill–Queen’s U. Press, 2017. Kindle Book.
- Myers, Natasha. "This is an Introduction, or, *What is Happening?*" In *Between Matter and Method*, edited by Gretchen Bakke and Marina Peterson, xii–xiii. London: Bloomsbury Academic Press, 2017
- Petschek, Peter. *Grading*. Basel: Birkhauser. 2014
- Puig de la Bellacasa, María. "Encountering Bioinfrastructure: Ecological Struggles and the Sciences of Soil." *Social Epistemology: A Journal of Knowledge, Culture and Policy* 28, no. 1 ("Absences," 2014): 26–40.
- Puig de la Bellacasa, Maria. "Making time for soil: Technoscientific futurity and the pace of care." *Social Studies of Science* (2015): 1–26.
- Puig de la Bellacasa, Maria. *Matters of Care: Speculative Ethics in More Than Human Worlds*. Minneapolis: U. of Minnesota Press, 2017
- Recompose, "What we do." Accessed May 18, 2019. <https://www.recompose.life>.
- Scranton, Roy. "Learning How to Die in the Anthropocene." *New York Times*, November 20, 2013. <https://opinionator.blogs.nytimes.com/2013/11/10/learning-how-to-die-in-the-anthropocene/>.
- Scranton, Roy. *Learning to Die in the Anthropocene: Reflections on the end of a civilization*. San Francisco: City Lights Publishers, 2015
- Shiva, Vandana. *Soil Not Oil: Environmental Justice in an Age of Climate Crisis*. Berkeley: North Atlantic Books, 2008
- Wark, McKenzie. *Molecular Red: Theory for the Anthropocene*. London/New York: Verso, 2015

STATEMENT ON ACADEMIC CONDUCT AND SUPPORT SYSTEMS

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>

Support Systems:

USC Student Health is available through the single phone number **213-740-9355 (WELL)**—including all services 24/7.
<https://studenthealth.usc.edu/>

Counseling and Mental Health Services, a division of the *Department of Psychiatry and Behavioral Sciences, Keck School of Medicine of USC*

Medical Services, with providers on clinical faculty of the *Departments of Family Medicine, Obstetrics and Gynecology, Dermatology, Orthopaedic Surgery, Keck School of Medicine of USC; and professional affiliations with the USC Chan Division of Occupational Science and Occupational Therapy, the USC School of Pharmacy, and the Division of Physical Therapy and Biokinesiology.*

Relationship and Sexual Violence Prevention and Services, with counselors who are clinical faculty of the *Department of Psychiatry and Behavioral Sciences, Keck School of Medicine of USC*

A nurse (for medical concerns) or licensed counselor (for mental health concerns) is available 24 hours a day, even when the student health centers are closed and during university closures.

Students in crisis may walk-in for urgent mental health services at the health centers (Engemann Student Health Center on UPC or Eric Cohen Student Health Center at HSC) during operational hours without an appointment; this may include urgent matters involving a death in the family, suicide concern, crime/sexual assault survivor counseling, or other high-risk matters.

Urgent “sick” appointments for medical care are available “same-day” for students needing care during operational hours.

The evening operators of the 24/7 phone service line can connect to USC Student Health services when an urgent matter presents itself.

Sexual assault survivors requiring transportation to a SART center can ask RSVP to call a Lyft ride (an “on-call” staff advocates program to accompany survivors is currently staffing operations and will be activated this fall).

MySHR (the student health record portal) shows all available regular appointment times; many appointments can be made within 24–48 hours.

Campus incident post-ventions are regularly provided by Counseling and Mental Health Services on campus for students; departments are encouraged to contact us to learn more or to make arrangements.

National Suicide Prevention Lifeline – 1 (800) 273-8255

www.suicidepreventionlifeline.org

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Office of Equity and Diversity (OED) | Title IX – (213) 740-5086

equity.usc.edu, titleix.usc.edu

Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

Bias Assessment Response and Support – (213) 821-8298

<https://campussupport.usc.edu/trojans-care-4-trojans/>

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

The Office of Disability Services and Programs – (213) 740-0776

dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support & Intervention – (213) 821-4710

<https://campussupport.usc.edu/>

Assists students, faculty, and staff in navigating complex issues.

Diversity at USC – (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency – UPC: (213) 740-4321 – 24/7 on call

dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety – UPC: (213) 740-6000 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.