UNIVERSITY OF CALGARY
SCHOOL OF ARCHITECTURE,
PLANNING AND LANDSCAPE

Fall 2023

Course Number: SUST 201

Course Name: Exploring Sustainability

Classroom: [redacted]

Instructor: Dr Rebecca Laycock Pedersen

- Email: rebecca.laycockpeder@ucalgary.ca
- Office Hours and Location: 2:00-3:00pm Tuesdays, PF 3174.
- Instructor Email Policy: Please note that all course communications must occur through your @ucalgary email, and I will respond to emails sent via students' @ucalgary emails within two working days. Please don't hesitate to send reminder emails if you are awaiting a response that has taken longer than two working days.

Teaching Assistant: Sidrah Anees

- Email: sidrah.anees@ucalgary.ca

Class Dates: Tuesdays and Thursdays, September 5 – December 6, 12:30-1:45pm

Course Description:

- This course provides learners with a foundational understanding of sustainability and associated concepts and issues. It covers an introduction to systems thinking for which will provide a basis from which to explore sustainability issues (e.g., food & agriculture, climate change & energy), and topics (environmental justice & decolonial perspectives, planning & governance) from an interdisciplinary perspective. This content will be delivered through a range of teaching methods, including lectures, videos, discussions, and active participation in group work and learning activities, drawing on real-world examples and scenarios. Course instructors and guest speakers (including academics and professionals from different disciplines and sectors) will offer perspectives on sustainability from business, community, government, the not-for-profit sector, and academia. Assignments will involve both individual exercises and group work, as well as a reflective portfolio.
- Course instructors and guest speakers will offer perspectives on sustainability from business, community, government, the not-for-profit sector, and academia. Classes will include lectures, videos, discussions, and active participation in group work and learning activities. We will bring real-world issues into the classroom on a regular basis. You will be encouraged to be engaged in the course, asking questions, challenging speakers, formulating your own ideas. The course will have a diverse group of guest speakers from, for example, the Arts, Sciences, Social Sciences,

Health Sciences, Engineering, Business, professionals, and communities of practice, all with a common interest in understanding, educating about and practicing sustainability.

- See: https://www.ucalgary.ca/pubs/calendar/current/sustainability-studies-sust.html#42743
- Academic Calendar description: https://contacts.ucalgary.ca/info/evds/courses/f23/SUST201
- Course Hours: 3 units; (3-0)

Requisites: See Section 3.3.5 of the Academic Calendar for more information regarding School of Architecture, Planning and Landscape courses.

- Prerequisite(s): none
- Corequisite(s): none

Course Delivery:

- In-person delivery

Course Learning Outcomes:

Upon completion of this course, students will be able to:

1. Effectively communicate foundational sustainability concepts and issues.
2. Formulate, articulate, and discuss values in the context of sustainability (e.g. human-environment relationships, inter and intra-generational ethics, diversity, equity and social justice)
3. Analyze real-world sustainability problems, argue for how they can be meaningfully addressed, and communicate this analysis effectively orally, visually and in writing.
4. Discuss and reflect on how they can contribute to creating a sustainable world in their personal, academic and professional lives.
5. Collaborate effectively in an interdisciplinary team.

Learning Resources:

Course text: Brinkmann, R. (2016). Introduction to sustainability. John Wiley & Sons.

Additional materials are outlined in class schedule.

Assessment Components:

The University policy on grading and related matters is described in F.1 and F.2 of the Academic Calendar. In determining the overall grade in the course the following weights will be used:

Assessment Method	Description	Weight	Aligned Course Learning Outcome
Email about sustainability (individual)	September 28, 5:00 pm	10%	1, 2

Sustainability Issues Poster (individual)	Energy & climate change, Water: October 12 at 11am Food and agriculture, Pollution and waste: October 17 at 11am Green building, Transport: October 19 at 11 am	25%	1, (2), 3
Ecological Footprint Product Analysis & Theory of Change (group work)	Materials should be submitted on D2L by November 23rd at 5pm. Presentations will take place on November 28th and 30th in class.	40%	1, (2), 3, 5
Reflective portfolio (individual)	December 12 at 5:00pm	25%	1, 2, 4

- Assessment and Evaluation Information:
  - Assignment descriptions, due dates, and other related materials can be found on D2L.
- Attendance and Participation Expectations:
  - Attendance in in-class sessions are mandatory. Please email the course instructor at rebecca.laycockpeder@ucalgary.ca if you are unable to attend class.
- Guidelines for Submitting Assignments:
  - Assignment submission guidelines vary by assignment and can be found in the assignment descriptions on D2L.
- Final Examinations:
  - There is no final examination for this course.
- Expectations for Writing:
  - Written assignments should be of an academic standard. If you need support with your academic writing, please seek out writing support here: https://www.ucalgary.ca/pubs/calendar/current/e-2.html
- Late Assignments:
  - Please let your instructor know immediately if you cannot meet the deadlines specified. You may be required to provide supporting documentation, as per Section M.1 of the Academic Calendar to support your request.
- Criteria that must be met to pass: A passing grade on all assignments are required to pass the course. If students do not complete or fail a required component of the course, this will be handled on a case-by-case basis.

Flexible Grade Option (CG Grade):

As per Section 3.5.1 of the Academic Calendar, the School of Architecture, Planning and Landscape will not permit the Flexible Grade Option (CG Grade) for any course offered by the School.

Grading Scale:

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding - evaluated by instructor
A	4.00	3.85-4.00	90-94.99	Excellent - superior performance showing comprehensive understanding of the subject matter
A-	3.70	3.50-3.84	85-89.99	Very good performance
B+	3.30	3.15-3.49	80-84.99	Good performance
B	3.00	2.85-3.14	75-79.99	Satisfactory performance
B-	2.70	2.50-2.84	70-74.99	
C+	2.30	2.15-2.49	65-69.99	
C	2.00	1.85-2.14	60-64.99	
C-	1.70	1.50-1.84	55-59.99	Minimum grade requirement for prerequisite courses.
D+	1.30	1.15-1.49	50-54.99	
D	1.00	0.50-1.14	45-49.99	
F	0.00	0-0.49	0-44.99	

Topic Areas and Detailed Class Schedule:

Please note that this schedule may be subject to change. Changes will be communicated through announcements on D2L.

Date	Content	Teaching/ learning activities	Reading materials	Assignments
Tuesday Sept 6	Instructor and Course Introductions	Lecture, small group discussion		
Thursday Sept 8	What is sustainability?	Lecture, small group discussion	**Required reading** Brinkmann Chapter 1	Introduce assignment 1
Tuesday Sept 12	History of sustainability	Lecture, small group discussion	**Required reading** Brinkmann Chapter 1	
Thursday Sept 14	Academic writing in sustainability science	Lecture, academic writing activity		
Tuesday Sept 19	Understanding natural systems	Lecture, small group discussion	**Required reading** Brinkmann Chapter 2	
Thursday Sept 21	Thinking in systems: An overview	Lecture, small group discussion	**Required reading** Systems thinking. https://www.youtube.com/watch?v=Miy9uQcwo3U This video gives an introduction to systems thinking. Kim, D. (1999). Introduction to Systems Thinking. This article gives an introduction to the main concepts behind systems thinking. Firth, S. C. (n.d.). *Making Sense of Complexity* https://www.csh.ac.at/complexity-science/a-comic-explaining-complexity/ This comic explains the concept of complexity.	
Tuesday Sept 26	Thinking in systems: Key concepts & complexity	Lecture, small group discussion	**Required reading** Preise, R., Biggs, R., De Vos, A., & Folke, C. (2018). Social-ecological systems as complex adaptive systems: organizing principles for advancing research methods and approaches. *Ecology and Society*, 23(4). This article outlines key concepts related to systems-thinking.	

Thursday Sept 28	Thinking in systems: Mapping relationships	Causal loop diagramming activity	**Required reading** *Systems mapping*. https://www.youtube.com/watch?v=h6FhY__v1h0 This video gives an introduction to causal loop diagramming. Lannon, C. (2018). Causal loop construction: the basics. *The Systems Thinker*. https://thesystemsthinker.com/causal-loop-construction-the-basics This article gives a basic explanation of how to make a causal loop diagram.	Assignment 1 due Introduce Assignment 2
Tuesday Oct 3	Understanding change: An overview	Lecture, small group discussion	**Required reading** Oberlack, C., Breu, T., Giger, M., Harari, N., Herweg, K., Mathez-Stiefel, S. L., ... & Tribaldos, T. (2019). Theories of change in sustainability science: understanding how change happens. *GAIA-Ecological Perspectives for Science and Society*, 28(2), 106-111. This article outlines the concept of theory of change in the context of sustainability. Meadows, D. (1999). *Leverage points: Places to Intervene in a System.* http://drbalcom.pbworks.com/w/file/fetch/35173014/Leverage_Points.pdf This article presents a theory of change rooted in systems thinking. **Further reading** Reinholz, D. L., & Andrews, T. C. (2020). Change theory and theory of change: what's the difference anyway?. *International Journal of STEM Education*, 7(1), 1-12. (see table 1) This article explains the difference between change theories (theoretical ideas about how change happens) and theory of change (a methodology that produces an explanation of how a projects'/organisations' goals can be met).	
Thursday Oct 5	Understanding change: Resilience	Lecture, small group discussion	**Required reading** Simonsen, S. H. et al. (2015). Applying resilience thinking: Seven principles for building resilience in social-ecological systems. Stockholm Resilience Centre. This article introduces the concept of resilience in the context of social-ecological systems and presents seven principles for building resilience.	
Tuesday Oct 10	Understanding change: Creating a theory of change	Participatory theory of change activity	**Required reading** Belcher, B., Claus, R., Davel, R., Jones, S., & Ramirez, L. (2019). Research Theory of Change: A Practical Tool for Planning and Evaluating Change-oriented Research. *Research Effectiveness*. This information sheet breaks down what a theory of change is and some of the basics about how to build one. Dhillon, L., & Vaca, S. (2018). Refining theories of change. *Evaluation*, 14(30). This article gives an overview of theories of change within organisations and present some different graphic alternatives for what theories of change can	Introduce Assignment 4

			look like. Pay particular attention to the part where they highlight the importance of considering causal links, mechanisms, and assumptions.	
Thursday Oct 12	Sustainability issues: Poster fair (energy & climate change, water)	Poster fair	**Required reading** Brinkmann Chapters 4, 5, 6	Assignment 2 due
Tuesday Oct 17	Sustainability issues: Poster fair (food and agriculture, pollution and waste)	Poster fair	**Required reading** Brinkmann Chapters 7, 10	Assignment 2 due
Thursday Oct 19	Sustainability issues: Poster fair (green building, transport)	Poster fair	**Required reading** Brinkmann Chapters 8, 9	Assignment 2 due
Tuesday Oct 24	Measuring sustainability	Lecture, small group discussion	**Required reading** Brinkmann Chapter 3	Introduce Assignment 3
Thursday Oct 26	Reporting and measuring sustainability in Calgary	Guest lecture: TBD	**Required reading** Sustainable Calgary (2020). *2020 State of Our City Report*. This report describes the overall state of sustainability in the city of Calgary. **Further material** Keough and Ghitter (2021). *Sustainability Matters: Prospects for a Just Transition in Calgary, Canada's Petro-City.* This book offers an overarching perspective on sustainability from the point of view of Calgary.	Assignment 4 due (part 1)
Tuesday Oct 31 	Ecological footprinting	Lecture, small group discussion	**Required reading** Mulligan, M. (2017). Chapter 3: Consumption and Consumerism. In *An Introduction to Sustainability: Environmental, Social and Personal Perspectives* (pp. 33-49). Taylor and Francis. *The Story of Stuff*. https://youtu.be/9GorqroigqM This video is a short animated documentary about the lifecycle of material goods and presents a critical perspective on consumption.	

Thursday Nov 2	Environmental Justice	Lecture, small group discussion	**Required reading** Brinkmann Chapter 10	
Tuesday Nov 7	Decolonial perspectives	Lecture, small group discussion	**Required reading** Throsby, D., & Petetskaya, E. (2016). Sustainability concepts in indigenous and non-indigenous cultures. *International Journal of Cultural Property*, 23(2), 119-140. This article challenges the idea that sustainability can be seen as a universal concept and argues for the importance of culture and insights that have been accumulated over generations in indigenous knowledge systems.	
Thursday Nov 9	Sustainability Planning and Governance	Lecture, small group discussion	**Required reading** Brinkmann Chapter 12	
Nov 14, 16	Term break			
Tuesday Nov 21	Sustainability, Economics, and the Global Commons	Lecture, small group discussion	**Required reading** Brinkmann Chapter 13 *Tragedy of the Commons*. https://www.youtube.com/watch?v=CxC161GvMPc This video summarises the main arguments from Hardin's Tragedy of the Commons. *Governing the Commons*. https://www.youtube.com/watch?v=B4hVbLjP1v8 This video summarises Ostrom's response to Hardin's Tragedy of the Commons. **Further reading** Hardin, G. (1968). The tragedy of the commons. *Science*, 162(3859), 1243-1248. This article argues that if common resources are left to individuals to exploit, then users will act according to their own self-interest and cause depletion of the resource, even though this is contrary to the common good. Ostrom, E., Burger, J., Field, C. B., Norgaard, R. B., & Policansky, D. (1999). Revisiting the commons: local lessons, global challenges. *Science*, 284(5412), 278-282. This article discusses new insights about the commons and the conditions most likely to favor sustainable uses of common-pool resources.	
Thursday Nov 23	Corporate and Organizational Sustainability Management	Lecture, small group discussion	**Required reading** Brinkmann Chapter 14	Assignment 3 due

Tuesday Nov 28	Ecological footprinting presentations	Presentations		
Thursday Nov 30	Ecological footprinting presentations	Presentations		
Tuesday Dec 5	Emotions in the face of unsustainability	Lecture, small group discussion	**Required reading** Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, R. E., Mayall, E. E., ... & van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *The Lancet Planetary Health*, 5(12), e863-e873. This article surveyed over 10 000 children and young people and describes the state climate anxiety in children and young people globally. Ojala, M. (2020). When young people worry about climate change. *Tomorrow's Earth Stewards* (online journal Tufts University USA). http://oru.diva-portal.org/smash/get/diva2:1459692/FULLTEXT01.pdf This article discusses some of the ways that young people cope with climate anxiety (both those that are helpful and less helpful). **Further material** Ecoanxious.ca Explore Climate Stories and Resources pages.	Assignment 4 due (part 2)
Tuesday Dec 12				Assignment 4 due (part 3)

University of Calgary Policies and Supports:

UNIVERSITY OF CALGARY COVID-19 UPDATES AND PROCEDURES

https://www.ucalgary.ca/risk/emergency-management/covid-19-response/covidsafe-campus

ACADEMIC ACCOMMODATION

https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: https://www.ucalgary.ca/legal-services/university-policies-procedures/student-accommodation-policy

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their instructor (contact information on first page above).

Student Accessibility Services will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

ACADEMIC MISCONDUCT

Academic Misconduct refers to student behavior which compromises proper assessment of a student's academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

For information on the Student Academic Misconduct Policy and Procedures please visit:

- Student Academic Misconduct Policy: https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-policy
- Student Academic Misconduct Procedure: https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure

Additional information is available on the Academic Integrity Website at https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity.

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy) and requirements of the Copyright Act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy (https://www.ucalgary.ca/pubs/calendar/current/k.html).

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

SEXUAL AND GENDER-BASED VIOLENCE POLICY

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's Sexual and Gender-Based Violence Policy guides us in how we respond to incidents of sexual and/or gender-based violence, including supports available to those who have experienced or witnessed sexual/gender-based violence, or those who are alleged to have committed sexual/gender-based violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at https://www.ucalgary.ca/legal-services/university-policies-procedures/sexual-and-gender-based-violence-policy.

UNIVERSITY STUDENT APPEALS OFFICE

If a student has a concern about a grade that they have received, they should refer to Section I of the Undergraduate Calendar (https://www.ucalgary.ca/pubs/calendar/current/i-3.html) which describes how to have a grade reappraised.

OTHER IMPORTANT INFORMATION

Please visit the Registrar's website at https://www.ucalgary.ca/registrar/registration/course-outlines for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk