University of Calgary
School of Architecture, Planning & Landscape

LANDSCAPE RESPONSES TO CLIMATE CHANGE, ENERGY & WATER – Fall 2021		
Course Number	LAND 608	
Pre/Co-Requisites	N/A	
Instructors Names	Dr. S Craig Gerlach	scgerlac@ucalgary.ca
	Dr. Randal Arsenault	randal@nl.rogers.com
Graduate Teaching Assistant	Christine Daly, P. Biol., Doctoral Candidate	Christine.daly@ucalgary.ca
Office Hours	By appointment	
Website	https://d2l.ucalgary.ca/d2l/home	
Class Dates	Fridays	
Class Times	9:00-13:00 (1-2hr discussion; 1-2hr directed work)	
Class Location	PF 2140	

COURSE DESCRIPTION
Identifies landscape-oriented solutions to local and global issues of climate change, energy, and water problems through research and project proposals. Provides the opportunity to identify the most pressing local, regional or international issues and develop solutions. Also known as: (formerly Environmental Design Landscape 639)

AIMS
• To provide a grounding of understanding in the Earth's systems and the biosphere • To explore the relation between humankind and the natural environment • To consider a range of sustainability challenges faced by society • To develop skills in applying sustainability principles • To explore the role of different sectors and professionals (including environmental managers, industry planners, government, stakeholder relations, Indigenous Peoples, governments and communities, non-government organizations) in moving towards more sustainable futures

LEARNING OUTCOMES	
CATEGORY OF OUTCOME	*At the end of this unit, students should:*

Knowledge and understanding	• Appreciate the range of issues and agendas connected to sustainability • Recognize the main environmental threats contracting human societies • Demonstrate awareness of key principles and approaches for moving towards sustainable futures • Show an understanding of the role of different sectors concerned with sustainability and responding to climate change
Intellectual skills (including critical analysis and argumentation)	• Developing writing skills • Conducting literature-based research reviews • Developing powers of synthesizing information and writing a coherent argument • Critical analysis and systems thinking
Practical skills	• Using a framework of sustainability to assess approaches to the management of the build and natural environment
Transferable skills and personal qualities	• Team work • Problem solving • Managing time efficiently • Reflective approach to professional development

TOPIC AREAS & DETAILED CLASS SCHEDULE – SUBJECT TO CHANGE	
PART 1: Fundamentals	
Sept. 10	TOPIC – Introduction Circle, Course overview, Learning Clans, Professional Skills and Management Applications
Sept. 17	TOPIC – IPCC Report Discussion and Assignment of Group Work ACTIVITY: Critical Review and Discussion of Reading READING: • Intergovernmental Panel on Climate Change (IPCC) Climate Change 2021 Summary for Policymakers (pp. 1-41), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf
Sept. 24	TOPIC – IPCC Technical Presentations ACTIVITY – Learning clans present an overview of their technical summary chapter READING: • Chapter to be assigned from the IPCC Report, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf
Oct. 1	TOPIC – IPCC Technical Presentations Continued
Oct. 8	TOPIC – Introduction to Energy Projects: Review and Development of Project Scopes

PART 2: Professional Practice and Simulations	
Oct. 15	TOPIC – Socio-economic and Environmental Impacts and Benefits ACTIVITY – Critical Review and Discussion of Readings and Group Work on Impact and Benefits of Individual Energy Projects READING – • Kehinde Adeyeye, Nelson Ijumba & Jonathan Colton (2020) Exploring the environmental and economic impacts of wind energy: a cost-benefit perspective, International Journal of Sustainable Development & World Ecology, 27:8, 718-731 https://ucalgary-primo.hosted.exlibrisgroup.com/permalink/f/1p0s7n7/TN_cdi_crossref_primary_10_1080_13504509_2020_1768171
Oct. 22	TOPIC – Energy Indigenous Environment Interface ACTIVITY – Critical review and discussions of readings and group work on IBA negotiation preparation READING – • Craik, Neil, Holly Gardner, and Daniel McCarthy. "Indigenous – Corporate Private Governance and Legitimacy: Lessons Learned from Impact and Benefit Agreements." Resources policy 52 (2017): 379–388. https://ucalgary-primo.hosted.exlibrisgroup.com/permalink/f/1p0s7n7/TN_cdi_gale_infotracacademiconefile_A521650965 • Wong et al. (2019). "Towards reconciliation: 10 calls to action to natural scientists working in Canada". Facets (Ottawa), 5(1), 769-783. https://ucalgary-primo.hosted.exlibrisgroup.com/permalink/f/1p0s7n7/TN_cdi_doaj_primary_oai_doaj_org_article_609bdb6cdb5b4cc8a39ea602eb3f8371
Oct. 29	TOPIC – Energy Indigenous Environment Interface Continued ACTIVITY - Professional Simulation of an Indigenous Community-industry Impact Benefit Agreement (IBA) Negotiation
Nov. 5	TOPIC – Waste Management, Water and Aquatic Resources
Nov. 12	Term Break, No Class
Nov. 19	TOPIC – Land Reclamation and Revegetation Planning for Today and Future Climate Scenarios ACTIVITY – Create a habitat and revegetation plan for your "novel ecosystem" informed by climate change predictions for your region
PART 3: Comprehensive Energy Project Plan Presentation	
Nov. 26	TOPIC - Professional Simulation of a Joint Federal-Provincial Government Review Panel Hearing ACTIVITY - Students present their project plan, including reclamation plan and any IBA, to panel for proposed project approval
Dec. 3	TOPIC -Professional simulation of a Joint Federal-Provincial Government Review Panel Hearing

	ACTIVITY - Students present their project plan, including reclamation plan and any IBA, to panel for proposed project approval
Dec. 10	TOPIC – Assignment review, wrap-up and closing circle

ASSESSMENT METHOD	DESCRIPTION*	WEIGHT	DEADLINE
Assignment 1	IPCC Presentation	10%	Oct. 1
Assignment 2	Community-industry Impact Benefit Agreement	10%	Nov. 5
Assignment 3	Review Panel Presentation	20%	Nov. 26
Assignment 4	Personal and Group Learning Reflection	10%	Dec. 10
Assignment 5	Comprehensive Energy Project Plan	40%	Dec. 10

*Subject to change

ASSESSMENT AND EVALUATION

Attendance at classes and in professional simulations is expected and required unless there are medical or formal accommodation situations. If you know you are not going to be able to attend a class due to unexpected circumstances, please contact the instructor by email preferably in advance of your absence if possible. If you are absent from two consecutive classes or fail to submit two consecutive assignments without contacting and advising the instructor of your situation, then you may be required to withdraw from the course. Participation in any group work will be carefully monitored by the instructor to ensure a full contribution by all group members. Any group issues/problems that you feel require attention should be reported immediately either by private appointment or via email to the instructor in order to find a constructive solution as quickly as possible.

There is no single final examination. Participants will be evaluated on the basis of a series of course assignments as outlined in the course schedule. Written assignments are expected to be at the graduate level of written English consistent with Faculty of Graduate Studies (FGS) guidelines available through the following link:
https://www.ucalgary.ca/pubs/calendar/current/e-2.html

Late assignments will not be accepted except for medical or compassionate grounds (such as a death in the family or a sick child) or unless there is a formal accommodation letter provided to the instructor at the beginning of the term.

The grade assigned to each participant for the course will be based on the cumulative results of all assignments.

Please note that FGS academic regulations state that a final course grade of "C+" or lower will result in required withdrawal from your degree program regardless of your overall grade point average (GPA) unless the program recommends otherwise. If the program permits a student to retake a failed course, the second grade will replace the initial grade in the calculation of the GPA, and both grades will appear on your official transcript.

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	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	2.15-2.49	65-69.99	All final grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.
C	2.00	1.85-2.14	60-64.99	
C-	1.70	1.50-1.84	55-59.99	
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	