



WINTER 2015

COURSE TITLE:	CLIMATE CHANGE PEDAGOGY
Instructor:	Paul Berger
Class:	Tuesdays 3:00PM-5:00PM BL2027 ... and maybe sometimes outside!
Office Hrs:	Open door at BL 1007B, or by appointment
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COURSE DESCRIPTION

Climate Change Pedagogy is a special topics course. It explores climate change as a defining issue for educators and students. It inquires into how educators can effectively engage with climate change as an environmental, economic, political, and social justice issue.

LEARNING NEEDS

Please let me know if there is anything I can do to help you learn optimally.

FOUNDATIONS OF PROFESSIONAL PRACTICE

A commitment to a clear vision of what it means to be a teacher is at the core of teacher professionalism. The principles of the Ontario College of Teachers' (OCT) *Professional Standards* have been embedded in the learning expectations for this course. Visit <http://www.oct.ca/public/professional-standards>

LEARNING OUTCOMES

This course explores how we might develop our capacities as engaging and effective climate change educators. Bringing together theory and practice, the course will consider questions such as: Why should climate change matter to the students in our classrooms, fellow educators in our schools, and the schools in our communities? What responsibility do educators have to engage with climate change? How can teachers teach about issues of politics, science, and ethics in our classrooms? What role can educators play in shaping a living future?

As the instructor, I can't know what your learning objectives will be for the course. I want this course to hold real meaning for you, both as educators and as Earthlings. I want for this course to be relevant to the educational contexts where you envision yourself. Throughout the course I hope we will share many conversations around your learning objectives and I'm excited to learn about what you're most excited to learn about.

I do arrive with some of my own objectives, which will evolve as we go. I'll state them as premises, following one of my favourite environmental authors Derrick Jensen:

- A safe classroom climate is important where we can learn together while respecting difference
- Climate change is the defining issue of our time
- Climate change is political
- Climate change and inequity will be solved together
- Working together the future can be bright; if we don't act urgently it will be ugly; currently, we're not acting urgently
- Systems of education can make us complicit in climate change while simultaneously positioning us as being able to take meaningful action on climate change
- Educators with a sense of responsibility, commitment, and excitement for acting on climate change as educators and as citizens will be invaluable in the change we need
- Learning experiences that transform classrooms into communities of action are powerful
- Have courage, being vulnerable, making mistakes, and learning, are part of creating a classroom community for change

Thank you for taking this class.

ATTENDANCE

Much of the learning for this course will take place in class through experiences and discussions. That being the case, one class may be missed without question due to illness or emergency. A subsequent class missed for any reason must be made up. This is done by, after discussing what happened in the missed class with peers, proposing adequate make-up work. This might include engaging in discussions with peers and documenting them, finding and completing extra readings or watching podcasts and reporting on them, or other useful activities. Once approved, the make-up work must be completed satisfactorily before March 17th, 2015. Failure to make up the second missed class will result in a maximum grade of 45% for the course.

Missing more than two classes will result in a maximum grade of 45% for the course except in exceptional circumstances such as a documented illness.

If you find this policy philosophically troubling, please see me and we'll negotiate something satisfactory to both of us.

CELL PHONES & COMPUTERS

Computers should not be brought to class. They have a tendency of distracting the user and those around the user.

We'll debate cell phones in the first class and take a secret ballot vote to determine their status in the class. I'll be arguing that they should be switched off with a \$5 fine for illicit use, but I may be outvoted. Prepare your arguments!

INCLUSIVE LANGUAGE

Please practice the use of inclusive language. I'll correct you gently when possible if you forget.

TEXTS/READINGS

There is no textbook or course package to purchase. All course readings can be accessed from a link on this syllabus, will be handed out in class or emailed to you, or will be attached to the D2L course site.

In addition to the readings and suggested readings found below, the following website is recommended if you have specific questions about climate science. The second URL takes you to a great list of introductory information about climate change.

<http://www.realclimate.org/>

<http://www.realclimate.org/index.php/archives/2007/05/start-here/>

ASSIGNMENTS AND EVALUATION

1. Reading Responses	20%
2. Climate Change Teaching Topic	40%
3. Final Reflectio	40%

1. 'Reading' Responses

Start of classes 2 - 8 (20%)

Using the reading response template please respond to each reading. These are due on paper at the beginning of each class with assigned readings.

Please retain each returned response as I may need to see them again at the end.

2. Climate Change Facilitation (facilitation session – 20 minutes)

Due: Starting January 27th, with dates TBD (40%)

Below, there is a non-exhaustive list of topics that we'll likely encounter during the class. Your task, in pairs, is to take on one of these to facilitate in the class, with the aim of increasing our knowledge *and* how we might teach about the topic. The purpose of this assignment is to give you an opportunity to develop, lead, and reflect upon an activity you and your peers could take with you to the contexts in which you will work as educators. So, do something that is relevant to your pedagogical goals – in an engaging way.

Possible topics:

Sea level rise Local impacts related to climate change Global impacts related to climate change The climate change denial industry Renewable energy technologies 350.org The future we could have Canada's climate reputation Humour in climate change education Climate justice The COP Lima climate talks or Paris 2015 Local or global climate change activism	Species extinctions related to climate change Ocean acidification Canada's political parties' platforms on climate change Naomi Klein The steady state economy Feedback mechanisms speeding warming Successful popular movements Climate change and food security Geoengineering Climate change and health Other – please suggest
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PART A: Proposal (5%) - as a pair, prepare a **single-sided one-page outline** of your proposed teaching experience. This outline can be in point form; however, it must provide sufficient detail for me to understand what you are going to do. Please highlight the objectives you have as facilitators for the session, what activities/experiences you are planning to facilitate, and how you are going to engage the active participation of the class. The proposal is **due one-week prior to your facilitation session**. After submitting it, you will receive feedback from the instructor by the following Friday (i.e. the Friday before your activity). Since this is time-sensitive, 20% of the grade will be deducted for each day that it's late.

PART B: Teaching (20%) – since the main goals are to increase our knowledge on the topic *and* to suggest great ways to approach teaching about it, these will be prioritized in the grading. Since people generally learn little when they are bored, class engagement is expected and class feedback will be solicited.

PART C: Fact Sheet (10%) – A one-page double-sided fact sheet, suitable for sharing with the class, should document specific relevant knowledge with references, perhaps point to further excellent resources for teachers who will teach the topic, and remind us briefly how to conduct the activity or activities. Make this user-friendly; a big problem for teachers is often information overload, so chose what goes on this, and how it looks, carefully. Submit this electronically so I can send it to the class. Due one week after your facilitation session.

PART D: Personal Reflection (10%) – following your facilitation session, **each of you** submits a reflection on your personal experience of the session. In this reflection, please briefly outline your particular contributions. As well, please consider what worked well, what you found challenging, what you might do differently, and how you would go about integrating this (or a similar) experience into wherever you see yourself teaching (school, outdoor educational centre, NGO, etc.) This reflection should be about 500 words and is due 2 weeks following your session. For example, if you facilitated on January 27th, your reflection would be due on February 10th. Since this is not time sensitive, no penalty will accrue for late submission, but the reflection will not be accepted after March 17th.

If you would strongly prefer to do a more typical major project instead of this facilitation, please discuss that possibility with me.

3. Final Reflection

March 10th (40%)

This will be a synthesis of your learning in Climate Change Pedagogy guided by the question:

How will you be effective as a climate change educator in the grade(s) and subject(s) you most hope to teach?

Some of the things that will guide my assessment can be found in the document “Final Reflection Assessment” available on D2L. You will indicate whether you would like to complete this as an assignment in writing due (nominally) on March 10th, in a written test format (perhaps with an 8x11 sheet with information on it to assist), in a conversation, or in another format.

Readings & Main Topics

Breaking the ice – January 5th

Science of climate Change – January 13

Rahmstorf, S. (2014, February 11). The climate crisis. Retrieved from

<https://www.youtube.com/watch?v=1ihnoSLmqT4>

Shogren, E. (2014, November 2). 5 Key Takeaways From the Latest Climate Change Report. National Geographic News. Retrieved from

<http://news.nationalgeographic.com/news/2014/11/141102-ipcc-synthesis-report-climate-change-science-environment/>

Klein, N. (2014). Introduction. In N. Klein, *This changes everything: Capitalism vs the Climate* (pp. 1-28). Toronto: Alfred A. Knopf. (find on D2L)

Cooperative Institute for Research in Environmental Science. (2014, May 2). Time history of atmospheric carbon dioxide, by CIRES and NOAA. Retrieved from

<https://www.youtube.com/watch?v=UatUDnFmNTY>

Optional

Intergovernmental Panel on Climate Change. (2013, November 21). Climate change 2013: The physical science basis. Retrieved from

<https://www.youtube.com/watch?v=6yiTZm0y1YA&feature=youtu.be>

More science of climate change – January 20th

McKibbin, B. (2012, July 19). Global warming's terrifying new math. *Rolling Stone*. Retrieved from

<http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>

Goodell, J. (2011, October 3). Climate change and the end of Australia. *Rolling Stone*. Retrieved from

<http://www.rollingstone.com/politics/news/climate-change-and-the-end-of-australia-20111003>

New York Times Editorial Board. (2014, April 20). Running out of time. *New York Times*. Retrieved from

http://www.nytimes.com/2014/04/21/opinion/running-out-of-time.html?emc=edit_tnt_20140420&nliid=6274831&tntemail0=y&_r=0

Optional

Meinshausen, M., Meinshausen, N., Hare, W., Raper, S. C. B., Frieler, K., Knutti, R., Frame, D. J. & Allen, M. R. (2009). Greenhouse-gas emission targets for limiting global warming to 2⁰C. *Nature*, 458. Doi:10.1038/nature08017 (find on D2L)

Friedlingstein, P. et al. (2014, September 21). Persistent growth of CO₂ emissions and implications for reaching climate targets. *Nature Geoscience*. DOI: 10.1038/NGEO2248 (find on D2L)

Climate change, values and schooling – January 27th

Orr, D. (1991). What is education for? *In Context: A Quarterly of Humane Sustainable Culture*. Retrieved from:

<http://www.context.org/iclib/ic27/orr/>

Smith, H. (2014, March 12). Want everyone else to buy into environmentalism? Never say "Earth". *Grist*. Retrieved from

<http://grist.org/climate-energy/want-everyone-else-to-buy-into-environmentalism-never-say-earth/>

Ontario Ministry of Education. (2009). Acting today, shaping tomorrow: A policy framework for environmental education in Ontario schools. Retrieved from <http://www.edu.gov.on.ca/curriculumcouncil/shapetomorrow.pdf>

Activist teaching? – February 3rd

DiCaprio, L. (2014, September 23). Leonardo DiCaprio speaks at UN Climate Change Summit. *The Guardian*. Retrieved from

<http://www.theguardian.com/environment/video/2014/sep/23/leonardo-dicaprio-un-climate-change-summit-speech-video>

Klein, N. (2014, September 12). Naomi Klein: This Changes Everything author talks about climate change. *The National*. Retrieved from

<https://www.youtube.com/watch?v=VthSOPDbiP8>

Klein, N. (2013, October 29). How Science Is Telling Us All To Revolt. *NewStatesman*.

<http://www.newstatesman.com/2013/10/science-says-revolt>

Brand, R. (2013, October 24). Russell Brand Bill Paxton BBC Interview. Retrieved from

<https://www.youtube.com/watch?v=b1FAv7FZSHU>

van Gelder, S. (2014, June 4). The Boomers “failed us”: Climate activist Tim DeChristopher on anger, love and sacrifice. *Yes! Magazine*. Retrieved from

<http://www.commondreams.org/views/2014/06/04/boomers-failed-us-climate-activist-tim-dechristopher-anger-love-and-sacrifice>

Extreme energy & Canada’s record on climate change – February 10th

Nikiforuk, A. (2014, June 23). No, Northern Gateway is not a nation builder. *The Tyee*. Retrieved from

<http://thetyee.ca/Opinion/2014/06/23/Northern-Gateway-Not-Nation-Builder/>

Biello, D. (2013, January 23). How much will Tar Sands oil add to global warming? *Scientific American*. Retrieved from

<http://www.scientificamerican.com/article/tar-sands-and-keystone-xl-pipeline-impact-on-global-warming/>

Palen, W. J., Sisk, T. J., Ryan, M. E., Arvai, J. L., Jaccard, M., Salomon, A. K., Homer-Dixon, T. & Lertzman, K. P. (2014). Consider the global impacts of oil pipelines. *Nature*, 510, 465-467. Retrieved from

<http://www.homerdixon.com/wp-content/uploads/2014/08/Nature-Comment-oil-sands-Palen-et-al1.pdf>

Klinkenborg, V. (2013, September 21). Silencing scientists. *New York Times Sunday Review*. Retrieved from

http://www.nytimes.com/2013/09/22/opinion/sunday/silencing-scientists.html?_r=3&

Economics of climate change – February 24th

Brown, E. (2013, November 26). Pope Francis’ five most radical statements on capitalism and poverty. *International Business Times*. Retrieved from

<http://www.ibtimes.com/pope-francis-five-most-radical-statements-capitalism-poverty-1486496>

Office of the Auditor General of Canada. (2014). 2014 fall report of the Commissioner of the Environment and Sustainable Development. Retrieved from

http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201410_01_e_39848.html read: Section 1.1 – 1.25

Gilding, P. (2011). Beyond the limits. In P. Gilding, *The great disruption* (pp. 49-63). New York: Bloomsbury. (find on D2L)

The brilliant future – March 3rd

Kroh, K. (2014, May 13). Germany sets new record, generating 74% of power needs from renewable energy. *Climate Progress*. Retrieved from

<http://thinkprogress.org/climate/2014/05/13/3436923/germany-energy-records/>

Loose ends, test and closure – March 10th

RELATED LAKEHEAD UNIVERSITY and FACULTY OF EDUCATION POLICIES

INCOMPLETE STANDING (University Regulation, V Standing)

<http://navigator.lakeheadu.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=19&chapterid=3080&topicgroupid=9348&loaduserredits=False>

TIMELY FEEDBACK (University Regulation XII)

Visit <http://navigator.lakeheadu.ca/~Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=19&topicgroupid=9457>

25% feedback for term courses

Winter term = February 13

ACADEMIC MISCONDUCT (University Regulation, IX Academic Misconduct)

<http://navigator.lakeheadu.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=19&chapterid=3080&topicgroupid=9352&loaduserredits=False>

THE FACULTY OF EDUCATION ASSESSMENT RUBRIC

<http://education.lakeheadu.ca/undergraduate/uploads/Microsoft%20Word%20-%20Professional%20Grading%20Policy-1.pdf>

EDUCATION ACADEMIC REGULATIONS

<http://navigator.lakeheadu.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=19&chapterid=2898&loaduserredits=False>