

**International Summer School on the Geopolitics of Energy & Natural Resources**  
**Sixth Annual Edition: May 13-17, 2019 – University of Calgary (DTC)**

**PPOL 611.21 – Globalization and Natural Resources:  
 Energy Transitions**

**Course Outline**

<b>Course:</b>	PPOL 611.21 Globalization and Natural Resources – <i>the 2019 theme is on “energy transitions: from what to what, and how?”</i>	<b>Term:</b>	Spring 2019 Special Block Week May 13–17, 2019
<b>Date &amp; time:</b>	Monday to Friday, May 13-17 2019, from 8h30 – 17h30 daily	<b>Section:</b>	01
<b>Instructor:</b>	Dr. Jean-Sébastien Rioux <i>Various leading experts and professors also will be lecturing</i>	<b>Place:</b>	Nexen classroom – 5th floor DTC
<b>Office:</b>	Downtown Campus 545	<b>Telephone:</b>	403-210-6108
<b>Office Hours:</b>	By appointment	<b>E-mail:</b>	<a href="mailto:jsrioux@ucalgary.ca">jsrioux@ucalgary.ca</a>

**Course Materials:**

- **Required:** David JC MacKay, 2009. *Sustainable Energy – Without the Hot Air*. Cambridge, UK: UIT Cambridge. Free download available: [www.withouthotair.com](http://www.withouthotair.com)
- **Recommended:** Prentice, Jim and Jean-Sébastien Rioux, 2017. *Triple Crown: Winning Canada’s Energy Future*. Toronto: HarperCollins. (Order online or contact your instructor.)
- The syllabus and course website will contain the list of specific readings for each session. All readings are mandatory and subject to examination during the final exam. We will also have a shared drive set up for the course as lecture notes are made available by the speakers.

**Course Description:**

The Institute for Advanced International Studies, *Hautes Études Internationales (HEI)* at Université Laval and The School of Public Policy (SPP) together established an annual global summer school focused on the geopolitics of natural resources. Bringing together leading experts, this joint effort results in an intensive week of discussions of global issues – political, economic, environmental and social. Participants analyze the challenges and obstacles related to

the management of natural resources against a backdrop of profound geopolitical changes. Each year a new theme is selected and **the 2019 issues will focus on the theme “Energy Transitions: From what to what, and how?”**

Governments across the world and certainly Canada’s federal and provincial governments must tackle the pressing problem of climate change, which often entails developing policies designed to reduce the amount of carbon emitted in the atmosphere. While many proponents of clean technology and renewable power call for a rapid transition from carbon-based energy to something else, existing technologies and infrastructures may not be as easily switched to ‘greener’ forms of energy without exorbitant costs or significant economic disruptions. What are the appropriate ways to transition from hydrocarbons to renewables? Which renewables are most appropriate for given uses? What existing technologies are ‘scalable’ for regional or national transitions? What are the costs of transitioning, and are the benefits ultimately worth it? What about the challenges of transitioning remote communities that currently are powered by diesel generators—what other forms of energy can they reliably use? These are among the topics we will cover.

At the end of this program, participants will be able to:

- Grasp the basic concepts of a geopolitical analysis of natural resources and better understand the changes in the international environment, their consequences for North America, and how Canadian interests will be affected;
- Understand how natural resources are managed now (policies and programs) and how such mechanisms evolve under the influence of geopolitical trends;
- Identify and understand the current social, environmental, financial, economic and technological challenges, such as problems related to extraction, transportation and legal, fiscal and regulatory frameworks.

### **Course Objectives:**

The intent is to draw participants and speakers from across Canada to explore the geopolitics of natural resources and how various political, commercial and societal forces – including environmental concerns – are shaping the future of energy use. Through the assigned readings and lectures by the best experts, site visits and networking opportunities, participants will have an increased understanding of the forces at play.

Moreover, we will be hosting students and professionals from across Canada – mostly from our partner school at Université Laval in Québec City – and other parts of the world and this course will lead to a better understanding of how these issues are viewed by peers from other provinces and regions. We also are recruiting mid-level civil servants and Industry practitioners and therefore more viewpoints will be shared amongst the participants – particularly as they work together on a group ‘experiential learning’ project that is an integral part of the Calgary-Québec Summer School, and always one of the most appreciated activities by past participants.

**Grade Determination & Final Examination:** Your grade will be determined by three factors:

1. Attendance and active participation in class (25%): Each day of perfect attendance and *active* participation is worth 2 points, for a total of 10 points, and short written “journals” summarizing key concepts and readings will be worth a further 15 points.
2. Your group project on the policy simulation exercise (30%): There will be a group experiential learning exercise where a scenario will be presented and you will have to work through a case. Students taking this course for credit will have to submit their written work for this exercises and it will count for 30 points.
3. Final examination (45%): A take-home final examination will be due one week after the course, on a date to be assigned later. You will be asked to write a series of essays totalling approximately 3,000 words on key learnings and readings from the various speakers.

Further details will be provided in the syllabus to be distributed the week before classes begin.

### Draft class schedule:

Monday May 13	<b>Introductory day on concepts and definitions: energy and environment ‘101’</b> <u>Lectures/presentations</u> on key concepts from 8:30am to 5:00pm
Tuesday May 14	<b>Theme: Climate change and energy transitions</b> <u>Lectures/presentations</u> on key concepts from 8:30am to 5:00pm - NOTE: Introduction to the simulation exercise (J-S Rioux and Gaétan Caron, SPP)
Wednesday May 15	<b>Theme: The economics and politics of energy transitions</b> - <u>Lectures/presentations</u> on key concepts from 8:30am to 5:00pm.
Thursday May 16	<b>Field trip: offsite visits TBD</b> - FIELD TRIP – We will travel by bus to visit projects related to this year’s theme - Preparation time for group simulation
Friday May 17	<b>Theme: Electrifying remote communities</b> - Lectures/presentations on key concepts from 8:30am to 2:00pm - PM: <b>AM: Final simulation exercise.</b> Detailed description and instructions to be provided in class on Tuesday, May 14, and students will prepare in groups during assigned class times. The exercise will simulate a Town Hall meeting on a subject to be presented in class.

<b>Monday</b>	<b>FINAL EXAM &amp; JOURNALS DUE</b>
<b>May 27 (TBD)</b>	Take-Home exam will be sent prior and students will have 24 hours to write it.

**Grading:** Letter grades as described in the Faculty of Graduate Studies Calendar (see section E.1 of Calendar online) will be given for all elements of grade determination noted above. The course grade will be determined based on a weighted average of those grades according to the percentages shown above. In the event that elements are marked on a numerical (percentage) basis, they will be converted to letter grades. As a guide to determining standing, the following letter grade equivalences will generally apply:

A+	97-100	B	75-79	C-	60-62
A	90-96	B-	70-74	D+	55-59
A-	85-89	C+	67-69	D	50-54
B+	80-84	C	63-66	F	0-49

#### Important Notes:

- The School of Public Policy expects the highest standards of professional conduct by students, faculty and staff. Abusive or disrespectful behavior will not be tolerated. This includes any expression of prejudice in any of its forms.
- It is the student's responsibility to be fully aware of the academic regulations outlined in the University Of Calgary Faculty Of Graduate Studies Calendar. Provisions regarding Student Misconduct (plagiarism, cheating and other academic misconduct) will be strictly enforced. Please review the University of Calgary's Regulations on Plagiarism, Cheating and Other Academic Misconduct, online: <http://www.ucalgary.ca/pubs/calendar/current/k-2.html> ; <http://www.ucalgary.ca/pubs/calendar/current/k-5.html>
- Students seeking reappraisal of a piece of graded term work (term paper, essay, etc.) should discuss their work with the Instructor *within fifteen days* of the work being returned to the class.
- Examinations will not be given prior to the scheduled date.
- Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS 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/](http://www.ucalgary.ca/access/). Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at: <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>
- All material used in this course is for the sole use of the individual and should not be recopied in either print or digital format. For copyright guidelines, including those relating to photocopying and electronic copies, please refer to the Association of Universities and Colleges of Canada (AUCC) fair dealing guidelines.
  - <http://library.ucalgary.ca/copyright/fair-dealing>
- The University of Calgary complies with the requirements of the *Freedom of Information and Privacy Act*. The University's policy on the sharing of student information with third parties can be found here: <http://www.ucalgary.ca/legalservices/files/legalservices/pg-pi-of-students-to-3rd-parties.pdf>. The University's policy on the sharing of student information with the subject can be found here: <http://www.ucalgary.ca/legalservices/files/legalservices/pg-pi-of-student-to-subject.pdf>
- A link for the Student Ombuds' Office is [www.ucalgary.ca/ombuds/](http://www.ucalgary.ca/ombuds/)

- Links to campus mental health resources include: [www.ucalgary.ca/wellnesscentre/](http://www.ucalgary.ca/wellnesscentre/) and [www.ucalgary.ca/mentalhealth/](http://www.ucalgary.ca/mentalhealth/) .
- In the event of an emergency, students may be required to evacuate the building. If evacuation is ordered, follow these procedures:
  - Stay calm, do not rush, and do not panic.
  - Safely stop your work.
  - Gather your personal belongings if it is safe to do so. (keys, purses, jackets, cell phones, etc. It may be hours before you are allowed back in the building.)
  - If safe, close your office door and window, but do not lock them.
  - If directed by wardens, follow their instructions.
  - Use the closest emergency exit. Do not use the elevator.
  - Proceed to the designated Emergency Assembly point in front of the Holiday Inn on 8<sup>th</sup> avenue to the west of the Downtown Campus.
  - Do not re-enter the building or work area until you have been advised by emergency responders that it is safe to do so.

**Graduate Students' Union Vice-President, Academic**

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**Graduate Students Association**

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Fax: 403 282-8992

**Emergency Assembly Point**

Holiday Inn Lobby (weather permitting)

1020 8<sup>th</sup> Avenue SW

Calgary, Alberta T2P 1J2

Or remain at nearest exit point

**Safewalk / Campus Security: 220-5333**

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Summer School on the GEOPOLITICS of NATURAL RESOURCES – 2019 (6<sup>th</sup> Edition)  
**Global Energy Transitions: From What To What, and How?**  
University of Calgary – Downtown Campus, May 13-17, 2019

	Monday May 14	Tuesday May 15	Wednesday May 16	Thursday May 17	FRIDAY MAY 18
	Setting the context: Energy 101	Climatology and energy transitions	The economics of transition	Field visits	
8h30 -10h15	<p><b>(9h00) Welcome remarks</b> <i>Patrick González, HEI</i> <i>Jean-Sébastien Rioux, SPP</i></p> <p><b>(9h10) Introduction of participants and look-ahead</b> <i>Jean-Sébastien Rioux, SPP</i></p>	<p><b>Climatology and climate change “101”</b> <i>(TBD)</i></p>	<p><b>How can we manage the transition to COP-21 commitments; what public policies &amp; technologies will it take?</b> <i>Sara Hastings-Simon (UofC)</i></p>	<p><b>IDEAS:</b></p> <p>1. TransAlta</p> <p>2. Okotoks – Drake’s Landing solar community <a href="http://www.dlsc.ca">www.dlsc.ca</a></p> <p>3. Imperial Oil research lab</p>	<p><b>Energy transitions in electricity generation</b> <i>(PANEL)</i></p>
	Break	Break	Break		Break
10h30-12h00	<p><b>Global Energy Production &amp; Use “101”</b> <i>Jean-Sébastien Rioux</i> <i>The School of Public Policy (SPP)</i></p>	<p><b>Proof of climate change: how the insurance sector quantifies the risks associated with climate change</b> <i>(PANEL TBD)</i></p>	<p><b>“Green Diplomacy”: the challenges of selling policies to combat climate change in a low-trust political environment</b> <i>(PANEL TBD)</i></p>		<p><b>Energy transitions in Northern communities</b> <i>Deborah Archibald, ERGP</i></p>
	Lunch	Lunch	Lunch		Lunch
13h30-15h15	<p><b>Environment, climate change and the law “101”</b> <i>Christophe Krolik</i> <i>Université Laval</i></p>	<p><b>The costs &amp; benefits of ‘going green’: calculating the price(s) of carbon emissions</b> <i>SPP</i></p>	<p><b>How do companies respond to energy transitions sustainably? Transitions and the UN SDG-7 goals</b> <i>(TBD)</i></p>		<p><b>Energy transition policies for a sustainable future</b> <i>(TBD)</i></p>
	Break	Break	Break	Break	
15h30-17h00	<p><b>Welcome Reception</b></p>	<p><b>Presentation on the policy simulation</b> <i>Jean-Sébastien Rioux &amp; ERGP</i></p>	<p><b>Electrification in the transportation sector: promises and pitfalls</b> <i>(TBD)</i></p>	<p><b>Group work on the policy simulation</b> <i>Jean-Sébastien Rioux, SPP</i></p>	<p><b>Policy simulation exercise 15h00 – 16h30</b> <i>J-S Rioux and ERGP team</i></p> <p><b>Exercise debrief</b></p> <p><b>Presentation of Certificates</b> <i>J-S Rioux &amp; P. González</i></p>