

**Intensive POL Course (POL 498H1 S)**  
**Global Issues: Science, Technology and International Policy**

**Mr. Daryl Copeland\***

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**Overview**

In the globalization era, the most profound challenges to human survival - climate change, public health, food security, and resource scarcity, to name a few – are rooted in science and driven by technology. Moreover, underdevelopment and insecurity, far more than religious extremism or political violence, represent fundamental threats to world order. In this context, the capacity to generate, absorb and use science and technology (S&T) could play a crucial role in improving security and development prospects. Addressing the needs of the poor, and bridging the digital divide should similarly become a pre-occupation of diplomacy.

Although poverty reduction contributes to development, and development is the flip side of security, S&T issues are largely alien to, and almost invisible within most international policy institutions. Foreign ministries, development agencies, and indeed most multilateral organizations are without the scientific expertise, technological savvy, cultural pre-disposition or research and development (R&D) network access required to manage effectively. If this is to change, and in order to examine the remedial possibilities, future opinion leaders and senior officials must be critically aware of both the dynamic inter-relationships among principal actors and the key questions and issues at play.

The seminar will involve selected readings, intensive exchange, the preparation of a research essay and the presentation of policy briefs by participants. The overall approach will be experimental and the teaching method Socratic. Sessions will typically begin with a discussion led by the instructor, drawing upon his professional experience in both research and field applications. A multiplicity of media, as well as guest speakers, will be implicated where possible. Premiums will be placed on interaction, innovation, insight and initiative.

**Anticipated Learning Outcomes**

On successful completion of this seminar, a student will be able to:

1. assess the relevant conceptual background and historical context related to the S&T performance gap in diplomacy and international policy/relations
2. understand the range of critical issues and examples currently in play
3. evaluate national and multilateral responses, or explain and interpret the lack thereof
4. analyze the complex interactions between bureaucratic politics, public policy and political power
5. conduct policy-relevant research in an emerging field of academic and policy interest
6. apply new skills, such as the preparation of briefing notes and research outlines
7. prepare and present high quality assessments and recommendations

**Course Requirements**

**Writing Assignment:** Seminar participants will produce a research paper of approximately 2500 words (disclusive of notes and bibliography) analyzing an issue, constructing a framework for assessment and proposing operational responses and policy recommendations. Topics can be contemporary or historical in nature, and may be determined in consultation with the instructor.

**Briefing Note/Presentation Assignment:** Seminar participants will prepare a summary of their preliminary research findings in the form of a 2 page briefing note (sections include: Issue; Background; Analysis; Implications (eg., for Canadian/global interests); Recommendations). During the last week of the seminar students will present those results to the class for consideration and critical evaluation. Presentation length will be approximately 10 - 15 minutes, depending upon enrollment. The content of these discussions may be incorporated into the final versions of both the briefing note and the research paper, each of which will be due on the last day of the spring term.

**Grading Criteria**

- comprehensiveness and concision of research, 30%
- coherence and organization of analysis, 20%

- clarity and strength of expression/argumentation, 20%
- response to criticism and ability to defend thesis, 10%
- suitability of approach, originality and overall quality, 20%

These criteria will be applied to both oral and written assignments.

### Grading Matrix

- demonstrated knowledge of subject matter, participation in seminar discussions, 20%
- preparation of briefing note, 15%,
- presentation of case study, 15%
- research paper, 50%, due no later than Thursday, April 7, 2011

### Course Details

This intensive course is offered jointly with Peace and Conflict Studies and is open to ten (10) 4<sup>th</sup>-year POL students (pending Departmental approval), and counts as a half credit course. It is comprised of eight (8) three-hour sessions as follows:

Schedule: Tuesday, January 11, 2011, 4:30 – 7:30 p.m.  
 Thursday, January 13, 2011, 4:30 – 7:30 p.m.  
 Tuesday, January 18, 2011, 4:30 – 7:30 p.m.  
 Thursday, January 20, 2011, 4:30 – 7:30 p.m.  
 Tuesday, January 25, 2011, 4:30 – 7:30 p.m.  
 Thursday, January 27, 2011, 4:30 – 7:30 p.m.  
 Tuesday, February 1, 2011, 4:30 – 7:30 p.m.  
 Thursday, February 3, 2011, 4:30 – 7:30 p.m.

Location: Sidney Smith Hall, Room 3130

Office: SS 3105. 10:00AM - 12 noon on Wednesdays: January 12, January 19, January 26 and February 2, or by appointment. 416 978-0345

### Eligibility and Enrolment procedures:

POL undergraduate students who are interested in taking this course should submit a copy of their transcript with a request to take the course to Elizabeth Jagdeo (Political Science Undergraduate Office, SSH 3027, no later than 5 p.m., Friday, October 29, 2010. Because of the intensive nature of the course, students are expected to have at least a 3.3 CGPA. **Please note priority will be given to POL specialists and Joint Specialists.** Students will be notified by the department of the outcome of their application by Monday, November 8, 2010.

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\* The course will be taught by Mr. Daryl Copeland - an analyst, author and educator specializing in diplomacy, foreign policy, global issues and public management. His first book, *Guerrilla Diplomacy: Rethinking International Relations*, was released in July 2009 by Lynne Rienner Publishers. Mr. Copeland received his formal education at the University of Western Ontario (Gold Medal, Political Science; Chancellor's Prize, Social Sciences) and the Norman Paterson School of International Affairs (Canada Council Special MA Scholarship). He has spent years backpacking on six continents, and enjoys travel, photography, arts and the outdoors. Mr. Copeland serves as a peer reviewer for *Canadian Foreign Policy*, the *International Journal*, and *The Hague Journal of Diplomacy*, and is a member of the Editorial Board of the journal *Place Branding and Public Diplomacy*. From 1981 to 2009 Mr. Copeland served as a Canadian diplomat and executive with postings in Thailand, Ethiopia, New Zealand and Malaysia. During the 1980s and 1990s, he was elected five times to the Executive Committee of the Professional Association of Foreign Service Officers. From 1996-99 he was National Program Director of the Canadian Institute of International Affairs in Toronto and Editor of *Behind the Headlines*, Canada's international affairs magazine. In 2000, he received the Canadian Foreign Service Officer Award for his "tireless dedication and unyielding commitment to advancing the interests of the diplomatic profession." Among his positions at the Department of Foreign Affairs and International Trade (DFAIT) in Ottawa, Mr. Copeland has worked as Senior Intelligence Analyst, South and Southeast Asia; Deputy Director for International Communications; Director for Southeast Asia; Senior Advisor, Public Diplomacy; Director of Strategic Communications Services; and, Senior Advisor, Strategic Policy and Planning. He is currently Adjunct Professor and Senior Fellow at the Munk School of Global Affairs, University of Toronto, and in 2009 was appointed Research Fellow at the University of Southern California's Center on Public Diplomacy.

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## *Seminar Schedule: Key issues, questions and problems*

### *Week One: Background and introduction - Conceptual and theoretical aspects*

11 January

- What are some of the key trends and challenges facing the planet, and how might they best be framed and addressed?
- What are world order models, and why are they important?
- How can one define, and differentiate between: the Cold War and the globalization age; foreign policy and international policy; security and development, and; multipolarity and *heteropolarity*?
- How has the nature and role of S&T changed in the past half century?

Core readings:

Copeland, Daryl (2009). *Guerrilla Diplomacy: Rethinking International Relations*. Boulder: Lynne Rienner Publishers. Chapters 1-7. [www.guerrilladiplomacy.com](http://www.guerrilladiplomacy.com)

Copeland, Daryl (2010). "Science, Technology and Global Change". *The Mark*. 07 December. <http://www.themarknews.com/articles/3358-science-technology-and-global-change>

Supplementary readings:

Arquilla, John, and David Ronfeldt (2007). "The Promise of Noopolitik." *First Monday* 12(8). <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1971/1846>

Atkinson, George (2006). "Science and Technology: A Bridge Between Cultures and Nations." *eJournalUSA* 11(3): 4. <http://www.america.gov/media/pdf/ejs/1006ej.pdf#poupup>.

Bezanson, Keith, and Francisco Sagasti (2005). *Prospects for Development Thinking and Practice*. New York: Rockefeller Foundation. [http://www.rockfound.org/about\\_us/news/2006/111006dev\\_think\\_practice.pdf](http://www.rockfound.org/about_us/news/2006/111006dev_think_practice.pdf).

Kuhn, T. H. (1962). *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press

Yunus, Muhammad (2006). Nobel Lecture, Oslo, 10 December. *The Nobel Foundation*. [http://nobelprize.org/nobel\\_prizes/peace/laureates/2006/yunus-lecture-en.html](http://nobelprize.org/nobel_prizes/peace/laureates/2006/yunus-lecture-en.html)

13 January

- What is the relationship among and between S&T, R&D, and innovation?
- How do these relationships impact on the formulation of international policy and the management of international relations?
- In what way do transnational S&T issues differ in kind from more traditional challenges faced by analysts and policymakers?
- Can the *GD* concepts of a *global political economy of knowledge* and *souplesse* deliver as advertised?

Core readings:

Copeland, Daryl (2009). *Guerrilla Diplomacy: Rethinking International Relations*. Boulder: Lynne Rienner Publishers. Chapters 8-13. [www.guerrilladiplomacy.com](http://www.guerrilladiplomacy.com)

Supplementary readings:

Dufour, Paul (2007). "Development of Science and-or Science for Development". Remarks at AAAS Annual Forum on Science and Technology Policy, Washington, DC, May 3-4. <http://www.aaas.org/spp/rd/forumdufour.pdf>.

Dyer, Gwynne (2008). *Climate Wars*. Toronto: Random House (cf. alternatively three part podcast by the author on CBC Radio *Ideas* <http://www.cbc.ca/ideas/episodes/features/2009/07/09/climate-wars-part-12-cd/>)

Johnson, Chalmers (2004). *The Sorrows of Empire: Militarism, Secrecy and the End of the Republic*. New York: Metropolitan Books.

## ***Week Two: Realpolitik - Practical and applied dimensions***

18 January

- Are public sector and business perspectives and interests on S&T, R&D, innovation and their place in the world complementary?
- Provide examples and illustrate
- Are academic and NGO perspectives and interests on S&T, R&D, innovation and their place in the world aligned?
- Provide examples and illustrate

Core readings:

Stein, Josephine Anne (2002). "Introduction: Globalisation, Science, Technology and Policy" *Science and Public Policy*. 29(6): 402-408.  
<http://docserver.ingentaconnect.com/deliver/connect/beechn/03023427/v29n6/s1.pdf?expires=1285706471&id=58838141&titleid=898&acname=Guest+User&checksum=B56DEBA610D9243DC563EA88B5009338>

Grand Challenges Canada (2010). "Integrated Innovation". McLaughlin-Rotman Centre for Global Health. August. <http://www.grandchallenges.ca/files/news/integratedInnovation.pdf>

Supplementary readings:

International Council for Science (2002–2003). "ICSU Series on Science for Sustainable Development No. 1–11." *International Council for Science*. [http://www.icsu.org/2\\_resourcecentre/Resource.php4?rub=8&id=29](http://www.icsu.org/2_resourcecentre/Resource.php4?rub=8&id=29)

International Council for Science (2005). "Strengthening International Science for the Benefit of Society: Strategic Plan 2006–2011." *International Council for Science*.  
[www.iupesm.org/ICSU%20Strategic%20Plan.pdf](http://www.iupesm.org/ICSU%20Strategic%20Plan.pdf)

UN Millennium Project (2005). *Innovation: Applying Knowledge in Development*. London: Earthscan. <http://www.unmillenniumproject.org/documents/Science-complete.pdf>.

World Bank (2007). "Global Forum: Building Science, Technology, and Innovation Capacity for Sustainable Growth and Poverty Reduction." Washington DC 1February 13–15.  
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSTIGLOFOR/0,,menuPK:3156763~pagePK:64168427~piPK:64168435~theSitePK:3156699,00.html>

20 January

- What is the role of S&T in the assessment of both conventional and non-traditional international security questions?
- Provide examples and illustrate
- Should S&T be accorded a central place in the discourse on development/underdevelopment, building knowledge-based economies and bridging digital divides?
- Provide examples and illustrate

Core readings:

Holdren, John P. (2008). "Science and Technology for Sustainable Well-Being." *Science* 319, no. 5862: 424-434. <http://www.sciencemag.org/cgi/reprint/319/5862/424.pdf>

UN Conference on Trade and Development (2008). "Science and Technology for Development: The New Paradigm of ICT." *UNCTAD Information Economy Report 2007–2008*.  
[http://r0.unctad.org/e-commerce/e-commerce\\_en/ier07\\_en.htm](http://r0.unctad.org/e-commerce/e-commerce_en/ier07_en.htm).

Supplementary readings:

"Concluding Report of the Heiligendamm Process." (2009). *G8 Information Centre, University of Toronto*.  
<http://www.g7.utoronto.ca/summit/2009laquila/2009-g5-g8-1-hdp.pdf>

Clarke, Leon, Kate Calvin, James A. Edmonds, Page Kyle, and Marshall Wise (2009). "Technology and International Climate Policy". Discussion Paper 08-21. *Harvard Project on International Climate Agreements, Belfer Center for Science and International Affairs, Harvard Kennedy School*.

[http://belfercenter.ksg.harvard.edu/publication/18678/technology\\_and\\_international\\_climate\\_policy.html?breadcrumb=%2Ftopic%2F64%2Fscience\\_and\\_technology](http://belfercenter.ksg.harvard.edu/publication/18678/technology_and_international_climate_policy.html?breadcrumb=%2Ftopic%2F64%2Fscience_and_technology)

Steinbock, Dan (2007). "New Innovation Challengers: The Rise of China and India." *The National Interest* (January-February): 67 – 73. [http://goliath.ecnext.com/coms2/gi\\_0199-6167997/New-innovation-challengers-the-rise.html](http://goliath.ecnext.com/coms2/gi_0199-6167997/New-innovation-challengers-the-rise.html)

Wagner, Caroline (2008). *The New Invisible College: Science for Development*. Washington, DC: Brookings Institution Press. <http://www.brookings.edu/press/Books/2007/newinvisiblecollege.aspx>

### ***Week Three: Bureaucratic politics, power and public policy - Management of S&T, R&D by international policy institutions***

25 January

- How do S&T issues and impacts affect the mandate and operations of the foreign ministry; what is the potential for *virtuality*? *Science diplomacy*?
- Provide examples and illustrate
- How do S&T issues and impacts affect the mandate and operations of multilateral institutions?
- Provide examples and illustrate

Core readings:

Copeland, Daryl (2009). "Virtuality and Foreign Ministries". *Canadian Foreign Policy*. 15:2: 1-15. <http://www.guerrilladiplomacy.com/wp-content/uploads/Virtuality-final.pdf>

Copeland, Daryl (2010). "A Place for Science Diplomacy?". *The Mark*. 19 November. <http://www.themarknews.com/articles/3228-a-place-for-science-diplomacy>

Lichtenstein, Jesse (2010). "Digital Diplomacy". *New York Times Magazine*. 16 July. [http://www.nytimes.com/2010/07/18/magazine/18web2-0-t.html?\\_r=2&hpw](http://www.nytimes.com/2010/07/18/magazine/18web2-0-t.html?_r=2&hpw)

Stine, Deborah (2009). "Science, Technology and American Diplomacy: Issues for Congress". Congressional Research Service. February 3, at <http://www.fas.org/sgp/crs/misc/RL34503.pdf>.

Supplementary readings:

Bronk, Chris (2010). "Diplomacy Rebooted: Making Digital Statecraft a Reality". *Foreign Service Journal*. March 43 - 47. <http://www.foreignservicejournal-digital.com/foreignservicejournal/201003/#pg45>

Clarke, Leon, Kate Calvin, James A. Edmonds, Page Kyle, and Marshall Wise (2009). "Technology and International Climate Policy." Discussion Paper 08-21. *Harvard Project on International Climate Agreements, Belfer Center for Science and International Affairs, Harvard Kennedy School*. [http://belfercenter.ksg.harvard.edu/publication/18678/technology\\_and\\_international\\_climate\\_policy.html?breadcrumb=%2Ftopic%2F64%2Fscience\\_and\\_technology](http://belfercenter.ksg.harvard.edu/publication/18678/technology_and_international_climate_policy.html?breadcrumb=%2Ftopic%2F64%2Fscience_and_technology)

Dickson, David (2009). "The Limits of Science Diplomacy". *SciDevNet*. 04 June. <http://www.scidev.net/en/editorials/the-limits-of-science-diplomacy.html>

Fedoroff, Nina (2009). "Science Diplomacy in the 21<sup>st</sup> Century". <http://www.state.gov/g/stas/2009/116182.htm>

Lijesevic, Jasmina (2010). "Science Diplomacy at the heart of international relations". *e-IR*. 01 April. <http://www.e-ir.info/?p=3704>

Miliband, David (2010). "A Call For Convergence: Science And Diplomacy In The Modern Age". Address to the IAP General Assembly, Royal Society, London. 12th January. [http://www.davidmiliband.info/speeches/speeches\\_010\\_01.htm](http://www.davidmiliband.info/speeches/speeches_010_01.htm)

Lord, Kristin and Turekian, Vaughan (2007). "Time for a New Era in Science diplomacy". *Science*. 315(9): 769-70. <http://www.sciencemag.org/cgi/content/full/315/5813/769>

National Academies (2002). "Knowledge and Diplomacy: Science Advice in the United Nations System". *Policy and Global Affairs*. [http://www.nap.edu/catalog.php?record\\_id=10577#toc](http://www.nap.edu/catalog.php?record_id=10577#toc)



Neuriter, Norm (2008). "The Role of the US in Promoting Global Science." *Bridges*. Vol. 17, April. <http://www.ostina.org/content/view/3032/958/>

Yakushiji, Taijo (2009). "Why Japan Needs Science and Technology Diplomacy." *Association of Japanese Institute of Strategic Studies*. [http://www.jiia.or.jp/en\\_commentary/200906/30-1.html](http://www.jiia.or.jp/en_commentary/200906/30-1.html)

27 January

- Have diplomatic methods and practices adapted to the challenges and opportunities posed by S&T, for instance, as regards use of the *new media* in public diplomacy?
- Provide examples and illustrate
- Do defence ministries, arms industries, think tanks and legislators function together as a military-industrial complex, and, if so, what are the implications?
- Provide examples and illustrate

Core sources:

Copeland, Daryl (2009). "Cyber Diplomacy". *The Mark*. 04 September. <http://www.themarknews.com/articles/473-cyber-diplomacy>

Eisenhower, President Dwight D. (1961). "Farewell Address". 17 January. <http://www.youtube.com/watch?v=8y06NSBBRtY>

Jarecki, Eugene (2005). *Why We Fight*: <http://freedocumentaries.org/int.php?filmID=93>

Johnson, Chalmers (2008). "How to Sink America". *TomDispatch*. 22 January. <http://www.tomdispatch.com/post/174884>

Supplementary sources:

Ben Gharbia, Sami (2010). "Gatecrashing Netroots Activism". *AlJazeera*. 24 September. <http://english.aljazeera.net/indepth/opinion/2010/09/201092294450124691.html>

Curtis, Adam (2004). *The Power of Nightmares*: <http://www.archive.org/details/ThePowerOfNightmaresDVD>

Engelhardt, Tom and Turse, Nick (2010). "The American Way of War Quiz". *TomDispatch*. 14 September. [http://www.tomdispatch.com/post/175294/tomgram%3A\\_engelhardt\\_and\\_turse,\\_the\\_wacky\\_world\\_of\\_american\\_war/](http://www.tomdispatch.com/post/175294/tomgram%3A_engelhardt_and_turse,_the_wacky_world_of_american_war/)

Langley, Chris (2005). "Soldiers in the Laboratory: Military Involvement in Science and Technology—and Some Alternatives." *Scientists for Global Responsibility*. January. [http://www.sgr.org.uk/ArmsControl/Soldiers\\_in\\_Lab\\_Report.pdf](http://www.sgr.org.uk/ArmsControl/Soldiers_in_Lab_Report.pdf).

Morris, Errol (2003). *The Fog of War*: <http://freedocumentaries.org/int.php?filmID=115>

#### **Week Four: Presentations - Bridging the S&T performance gap in international policy and relations**

01 and 03 February - Student debriefings on project research, analysis and findings

Key questions

- Is there a central role for diplomacy, foreign ministries, universities, business and international organizations in resolving complex S&T-based problems?
- What kinds of policy-relevant insights can be produced by case studies of specified S&T issues?
- On the basis of seminar discussions, student presentations and term paper research, what sorts of generic and issue-specific conclusions and recommendations might be offered?
- Does Canada enjoy any comparative advantages in international S&T?

Supplementary reading:

Hariri, Mehrdad (2010). "Bringing Canadian Science to the World". *The Mark*. 28 October.  
<http://www.themarknews.com/articles/2947-bringing-canadian-science-to-the-world>

### Useful additional publications

<i>Daedalus</i>	<i>Research-Technology Management</i>
<i>International Journal of Technology Management</i>	<i>Science</i>
<i>Issues in Science and Technology</i>	<i>Science and Public Policy</i>
<i>Minerva</i>	<i>Science in Parliament</i>
<i>Nature</i>	<i>Science, Technology and Human Values</i>
<i>New Scientist</i>	<i>Scientometrics</i>
<i>Prometheus</i>	<i>Technology and Culture</i>
<i>R&amp;D Management</i>	<i>Technology in Society</i>
<i>Research Evaluation</i>	<i>Technology Review</i>
<i>Research Money</i>	<i>Technovation</i>
<i>Research Policy</i>	

### Useful additional web sites:

<http://www.scienceadvice.ca/about.html>

<http://sciencepolicy.ca/>

<http://www.gwu.edu/~cistp/>

<http://ocw.mit.edu/OcwWeb/Political-Science/17-441Fall-2007/CourseHome/index.htm>

<http://ocw.mit.edu/OcwWeb/Science--Technology--and-Society/STS-462Spring-2006/CourseHome/index.htm>

<http://belfercenter.ksg.harvard.edu/>

<http://www.scidev.net/en/>

<http://www.cistp.gatech.edu/>

<http://diplomacy.aaas.org/>

<http://www.mitpressjournals.org/loi/itgg?cookieSet=1>

<http://ocw.mit.edu/OcwWeb/web/home/home/index.htm>

See also [www.guerrilladiplomacy.com](http://www.guerrilladiplomacy.com) for a wide variety of relevant links.

For more information, please contact: [daryl.copeland@guerrilladiplomacy.com](mailto:daryl.copeland@guerrilladiplomacy.com)