Carleton UNIVERSITY

The Norman Paterson School of International Affairs

INAF 5201
IPIS 5301

DISARMAMENT, ARMS CONTROL AND NONPROLIFERATION

FALL 2014

Instructor: Trevor Findlay

Course Description

The course is intended to impart a comprehensive academic understanding of the origins, theory and practice of disarmament, arms control and nonproliferation. Students will explore the intellectual, political, strategic and other underpinnings of these approaches to conflict prevention and mitigation and how they have evolved, particularly since the end of the Cold War. There will be an emphasis on nuclear weapons, but chemical and biological weapons, conventional weapons and space weapons will also be considered.

Multilateral, regional, bilateral and other types of treaties will receive prominence as a principal means of achieving disarmament, arms control and nonproliferation objectives, but newer arrangements, such as security- and confidence-building measures, cooperative threat reduction and counter-proliferation approaches, will also be dealt with. In respect of treaties, due emphasis will be placed on their negotiation and implementation, as well as on monitoring, verification and compliance. The roles of various stakeholders in the weapons control enterprise, including states, international organizations, civil society and industry will be studied.

Learning Outcomes

The course is designed to provide students with:

- an academic understanding of the origins, theory and practice of disarmament, arms control and nonproliferation
- an appreciation of the making and framing of national policy in this field, and
- an understanding of the multilateral disarmament process.

Expectations

Students are expected to:

- attend every class and participate actively in discussions and activities—attentive listening is not considered active participation
- come to class prepared: this includes completing the assigned readings and thinking about the questions posed for the session

- not use laptops or other electronic devices unless requested by the instructor
- turn off cellphones for the duration of the class.

Course Structure/Class Format

Classes are held each week for three hours. Sessions will typically start with a presentation by the instructor on the week's topic designed to set the stage for class discussion. The second half of the class will be devoted to a model Conference on Disarmament (CD), during which students represent a country allocated to them, make national statements and participate in discussions and negotiations. Guest lecturers, as available, may give presentations on particular topics.

Evaluation

Attendance/participation	10%
Model CD	
National position representation	10%
National statement	10%
Written paper	15%
Draft NWC negotiations	10%
Policy paper	20%
Analytical (term) paper	25%
Total	100%

Model Conference on Disarmament: National position representation, presentation and participation in negotiations

The aim of this assignment is to familiarize each student with the policies and practices of a particular country in respect of disarmament, arms control and nonproliferation and to understand their role in a multilateral negotiating forum. Countries will be allocated randomly at the first class. The student will be expected to become increasingly familiar with the national position of that country throughout the course and be ready periodically to be called on, or volunteer, to represent it in respect of the various issues that arise. A formal presentation of 15 minutes on the national position will be given as part of the model CD exercise. This should not simply be a duplication of an existing national presentation, but should be prepared by the student based on primary and secondary sources.

Oral presentations will be marked for clarity of organization and presentation, analytical depth, appropriate and effective use of supportive techniques and materials and style. The key criterion is whether effective communication with the class has been achieved.

Written work

All written work must be submitted in hard copy and formatted in 12 point Times New Roman font with 1 inch margins and 1.5 line spacing. As well as the quality of the substantive content and analytical capability, marks will be awarded for neatness and clarity of presentation; writing style; and spelling, grammar, punctuation and syntax. Students who believe they may have difficulties in any aspect of their writing skills are advised to contact the Writing Tutorial Service (carleton.ca/wts) before their first written assignment is due.

Strict compliance with length limitations is required: written work that exceeds the required length will be assessed up to the point at which the length is exceeded. Late assignments will be penalized 1 percentage point of the total course grade for each late day. Assignments must be original work and must not have been already submitted for credit in another course. Three written assignments are expected.

National position paper

A written 1500-word paper, an analysis and critique of the national position, is due at the beginning of Session 4. The paper should be properly referenced using endnotes, but with a limit of 10 (whether duplicated or individual), only half of which may be electronic. No bibliography is required.

Policy paper

The aim of this 1500-word assignment is to simulate the writing of a policy brief. It is to be written as if it were for the foreign affairs minister of the country that the student is representing. Students will choose one of 6 set questions. No footnotes/endnotes are to be used; penalties will be imposed if they are used. This paper will be due at the beginning of Session 6.

Analytical paper

This is an extended, 3,500-word essay in academic style, on one of 6 set topics, that interweaves two or more broad themes covered by the course. Students are advised to begin considering and working on their term paper from the outset of the course. Early consultation with and approval of the instructor is required for the specific topic chosen. The word count should be noted on the top of the first page. Endnoted references are required using ordinary numerals (not small Roman). A limit of 25 endnotes, up to half of which may be electronic sources, is allowed, in addition to the 3,500 word limit. A one-page bibliography of key sources used during work on the paper, whether cited or not, should be appended, also in addition to the 3,500 word limit. The paper is to be submitted at the beginning of Session 11.

COURSE MATERIALS

Basic Sources

A basic background text for this course is the Blix Commission report *Weapons of Terror: Freeing the World of Nuclear, Biological and Chemical Arms* (Weapons of Mass Destruction Commission, Stockholm, 2006). Several copies are available in the Resource Centre. In addition, the report is viewable and downloadable at www.wmdcommission.org.

For nuclear disarmament issues see *Eliminating Nuclear Threats: a Practical Agenda for Global Policymakers*, (Paragon, Canberra, 2009), also downloadable at www.icnnd.org.

For the follow-up to the Report of the International Commission on Nuclear Non-proliferation and Disarmament see *Nuclear Weapons: The State of Play, Centre for Nuclear Non-Proliferation and Disarmament*, Australian National University, Canberra, 2013, www.cnnd.anu.edu.au.

International Association of Lawyers Against Nuclear Arms, International Network of Engineers and Scientists Against Proliferation, International Physicians for the Prevention of Nuclear War, *Securing our Survival (SOS): The Case for a Nuclear Weapons Convention*, New York 2007

Students should also consult regularly the sources detailed below and draw on them for information and analysis. Students are also advised to read a respected daily newspaper to keep abreast of rapidly changing developments in the field. The following are recommended: *The Economist*; *New York Times*; *Globe and Mail*; *Washington Post*; *The Times*; *The Guardian*.

For their national presentations students should consult statements delivered at the First Committee or Plenary of the United Nations General Assembly; the Conference on Disarmament in Geneva; the UN Disarmament Commission; conferences of the International Atomic Energy Agency, the Organisation for the Prohibition of Chemical Weapons and of the Preparatory Commission for the Comprehensive Nuclear Test Ban Treaty Organization and preparatory meetings for the 2015 Nuclear Non-Proliferation Treaty Review Conference; and the websites of foreign ministries and relevant organizational headquarters (see below).

Journals

Arms Control Today
Bulletin of the Atomic Scientists
Nonproliferation Review

Reference works

Joseph Cirincione, Jon Wolfsthal, Miriam Rajkumar, *Deadly Arsenals: Nuclear, Biological and Chemical Threats*, second edition, Brookings Institution Press, Washington DC, July 2005
Congressional Research Service, 'Arms Control and Nonproliferation: a Catalog of Treaties and Agreements', Washington DC, 1 June 2007

Joseph Goldblat, *Arms Control: The New Guide to Negotiations and Agreements*, International Peace Research Institute (PRIO), Oslo, and the Stockholm International Peace Research Institute (SIPRI), Stockholm, 2002

Waheguru Pal Singh Sidhu and Ramesh Thakur (eds), *Arms Control after Iraq: Normative and Operational Challenges*, United Nations University Press, Tokyo, 2006

Steve Tulliu and Thomas Schmalberger, *Coming to Terms with Security: A Lexicon for Arms Control, Disarmament and Confidence-Building*, UN Institute for Disarmament Research (UNIDIR), Geneva, 2003

Verification Research, Training and Information Centre (VERTIC), *Coming to Terms with Security: A Handbook on Verification and Compliance*, UNIDIR, Geneva, 2003.

Yearbooks

SIPRI Yearbook, Stockholm International Peace Research Institute (SIPRI), Stockholm

United Nations Disarmament Yearbook, United Nations Office (formerly Department) for Disarmament Affairs, New York

Verification Yearbook, Verification Research, Training and Information Centre (VERTIC), London (to 2004)

Web, research institute and non-governmental resources

Acronym Institute, London, UK
Arms Control Association, Washington DC
Brookings Institution, Washington DC
Carnegie Endowment for International Peace, Washington DC
Centre for International Governance Innovation (CIGI), Waterloo, ON
Center for Strategic and International Studies (CSIS), Washington DC
The Henry L. Stimson Centre, Washington DC
Institute for Science and International Security (ISIS), Washington DC
International Campaign to Ban Landmines (ICBL), Ottawa
International Institute for Strategic Studies (IISS), London
James Martin Center for Nonproliferation Studies, Monterey Institute of International Studies, Monterey, California and Washington DC
Peace Research Institute Oslo (PRIO), Oslo
Reaching Critical Will, Geneva and New York (for analysis of the Conference on Disarmament and other multilateral negotiations)
Stockholm International Peace Research Institute (SIPRI), Stockholm
United Nations Institute for Disarmament Research (UNIDIR), Geneva
Verification Research, Training and Information Centre (VERTIC), London

Multilateral organizations

United Nations Office for Disarmament Affairs (UNODA), United Nations, New York
Implementation Support Unit (ISU) for the Biological Weapons Convention, Geneva
International Atomic Energy Agency (IAEA), Vienna
Organisation for the Prohibition of Chemical Weapons (OPCW), The Hague
Preparatory Commission for the Comprehensive Test Ban Treaty Organization (CTBTO), Vienna

Blogs

For an informative and at times irreverent blog by Jeffrey Lewis see www.armcontrolwonk.com

CLASS TOPICS AND READINGS

The following outlines the readings for each class. They are drawn from primary and secondary sources and are divided into required readings and recommended additional readings. Students who have read all the required readings for each session will be better able to participate and thus stand to benefit more from each class. This in turn is likely to be reflected in higher grades for participation and class assignments.

The additional readings are for those who are interested in pursuing a subject further or for use in researching class assignments. Students are advised not to rely solely on these references for class assignments but to do their own research as well.

WEEK 1 INTRODUCTION: A THREAT ASSESSMENT

Why is there a need for disarmament, arms control and nonproliferation? This class will introduce the problem that disarmament, arms control and nonproliferation efforts seek to tackle—weapons and their delivery systems and the strategic, military and political effects they engender. It will consider why states acquire weapons in the first place and what are the various types of weaponry, the technologies required to produce them, and their delivery systems. The problematique of the arms race will be investigated: how and why do states enter into arms races? Is the concept a useful one? What is the particular threat from the proliferation, vertical and horizontal, of so-called weapons of mass destruction (nuclear, radiological, chemical and biological weapons)? How does the relatively new threat of terrorism involving unconventional weaponry factor into arms control and disarmament efforts?

Required reading

François Heisbourg, 'Five days in December: the Iran crisis 25 years hence', *World Policy Journal*, fall 2008

William Arkin, 'The continuing misuses of fear', *Bulletin of the Atomic Scientists*, September/October 2006

'Assessing nuclear threats and risks', Part II, *Eliminating Nuclear Threats: a Practical Agenda for Global Policymakers*, Report of the International Commission on Nuclear Non-proliferation and Disarmament (Paragon, Canberra, 2009)*, downloadable at www.icnnd.org

'The global spread of military technology', chapter 3 and 'Military means as a source of security problems', chapter 12, Barry Buzan and Eric Herring, *The Arms Dynamic in World Politics*, Lynne Rienner, Boulder and London, 1998

Recommended additional reading

'Understanding the nuclear weapons threat', Nuclear Threat Initiative, Washington DC, www.nti.org/threats/nuclear/

'Threats and responses', chapter 2, *Weapons of Terror: Freeing the World of Nuclear Biological and Chemical Arms*, Weapons of Mass Destruction Commission, Stockholm, 2006

Robin M. Frost, 'Nuclear terrorism after 9/11', *Adelphi Paper* 178, International Institute for Strategic Studies (IISS), London, 2005

David Albright, *Peddling Peril: How the Secret Nuclear Trade Arms America's Enemies*, Free Press, New York, 2010

Richard Dean Burns and Joseph M. Siracusa, *A Global History of the Nuclear Arms Race: Weapons, Strategy and Politics*, vols. 1 and 2, Praeger, Santa Barbara, CA, 2013

WEEK 2 DISARMAMENT, ARMS CONTROL AND NONPROLIFERATION: THE BASICS

This session will examine the evolution of the basic concepts and principles of disarmament, arms control and nonproliferation, the elements of the international nonproliferation regime and the essentials of international treaty law in this field. How do the various terms differ and what different purposes do they serve? Who 'invented' the terminology and how does it reflect their biases and interests? In what ways are the terms ambiguous and overlapping? What are the historical phases in which they were most popular. Is the terminology continuing to evolve in response to new international circumstances?

Required reading

'Basic concepts', chapter 1, and 'Historical overview', chapter 2 Joseph Goldblat, *Arms Control: The New Guide to Negotiations and Agreements*, International Peace Research Institute (PRIO), Oslo, and the Stockholm International Peace Research Institute (SIPRI), Stockholm, 2002

Emanuel Adler, 'Arms control, disarmament and national security: a thirty year retrospective and a new set of anticipations', Special edition on 'Arms Control: Thirty Years On', *Daedalus*, Journal of the American Academy of Arts and Scientists, winter 1991

'Negotiating arms control and disarmament agreements', chapter 9, Steve Tulliu and Thomas Schmalberger, *Coming to Terms with Security: A Lexicon for Arms Control, Disarmament and Confidence-Building*, UNIDIR, Geneva, 2003

Recommended additional reading

'The International Nonproliferation Regime', chapter 2, Joseph Cirincione, Jon Wolfsthal, Miriam Rajkumar, *Deadly Arsenals: Nuclear, Biological and Chemical Threats*, 2nd ed., Brookings Institution Press, Washington DC, July 2005

WEEK 3 STAKEHOLDERS, NEGOTIATORS AND IMPLEMENTERS: FROM THE UN SECURITY COUNCIL TO THE INTERNATIONAL CAMPAIGN TO BAN LANDMINES

This class will consider the wide variety of stakeholders involved in disarmament, arms control and nonproliferation efforts, including states; international organizations, notably the United Nations; industry; and non-governmental organizations. Why are so many different interests involved and how are they reflected in the various entities? Negotiation success and failure, at the Conference on Disarmament and other negotiating bodies, will be examined. Why is it so difficult to reach agreement on disarmament and arms control treaties or other arrangements? Are the impediments institutional or structural, economic or political, or a mixture of all of these? Since successful disarmament and arms control depends not only on negotiating treaties but on

implementing them, the role of various stakeholders in the implementation of agreements, including in ensuring compliance and enforcement, will also be considered. What roles do formal international organizations play, including the UN? Is there a role for civil society, notably non-governmental organizations in monitoring and ensuring compliance?

Required reading

'Security Council successes on North Korea', chapter 11, John Bolton, *Surrender is Not an Option*, Threshold Editions, New York, 2007

'The United Nations', chapter 3, Joseph Goldblat, *Arms Control: The New Guide to Negotiations and Agreements*, International Peace Research Institute (PRIO), Oslo and the Stockholm International Peace Research Institute (SIPRI), Stockholm, 2002

Vanessa Martin Randin, 'Diplomats, civil society and academia: some thoughts on the limits of the discourse', chapter 2 in John Borrie and Vannesa Martin Randin (eds), *Thinking Outside the Box in Multilateral Disarmament and Arms Control Negotiations*, UNIDIR, Geneva, 2006

Recommended additional reading

April Carter, *Success and Failure in Arms Control Negotiations*, Oxford University Press for the Stockholm International Peace Research Institute, Oxford, 1989, especially chapter 2, 'A framework for analysis'

Jayantha Dhanapala with Randy Rydell, *Multilateral Diplomacy and the NPT: An Insider's Account*, UNIDIR and SIPRI, Geneva and Stockholm, 2005

John Borrie and Vannesa Martin Randin (eds), *Thinking Outside the Box in Multilateral Disarmament and Arms Control Negotiations*, UNIDIR, Geneva, 2000

WEEK 4 DISARMAMENT: ORIGINS, THEORY AND TRAJECTORY: A NOBLE BUT NAÏVE ENDEAVOUR?

This class will examine the history of and theory behind the traditional concept of disarmament and the extent to which it is achievable in the absence of world government. What is the historical context in which campaigns for complete world disarmament arose? Why has such a movement encountered such difficulties? Is there currently any support for general and complete disarmament? How about nuclear disarmament, known popularly as 'Getting to Zero'? Contemporary voices for disarmament and current prospects, especially in respect of nuclear disarmament, will be considered.

Required reading

'Disarmament', chapter 15, Barry Buzan and Eric Herring, *The Arms Dynamic in World Politics*, Lynne Rienner, Boulder and London, 1998

'Nuclear disarmament', chapter 1, *Nuclear Weapons: The State of Play, Centre for Nuclear Non-Proliferation and Disarmament*, Australian National University, Canberra, 2013, www.cnnd.anu.edu.au

James E. Doyle, 'The case for abolition', *Survival*, February-March 2013

'Why abolition is impractical', chapter 3, Michael E. O'Hanlon, *A Sceptic's Case for Nuclear Disarmament*, Brookings Institution Press, Washington DC, 2010

Recommended additional reading

'Disarmament as an approach to peace', chapter 13, Inis L. Claude, Jr., *Swords into Ploughshares*: *The Problems and Progress of International Organization*, University of London Press, London, 1965

Jonathan Schell, *Fate of the Earth*, Picador, London, 1982

George Perkovich and James M. Acton, 'Abolishing Nuclear Weapons', *Adelphi Paper* no. 396, International Institute of Strategic Studies, London, 2008

George Perkovich and James M. Acton (eds), 'Abolishing Nuclear Weapons: A Debate', Carnegie Endowment for International Peace, Washington DC, 2009

Trevor Findlay, 'The verification and compliance regime for a nuclear weapon-free world', *VERTIC Briefing Paper* no. 99/5, November 1999 (www.vertic.org)

Michael E. O'Hanlon, *A Sceptic's Case for Nuclear Disarmament*, Brookings Institution Press, Washington DC, 2010

David Cortright and Raimo Väyrynen, *Towards Nuclear Zero*, Routledge for the International Institute of Strategic Studies, London, 2010

Catherine M. Keller and Judith Reppy, *Getting to Zero: the Path to Nuclear Disarmament*, Stanford University Press, Palo Alto, 2011

WEEK 5 ARMS CONTROL: ORIGINS, THEORY AND TRAJECTORY

This class will consider the origins of arms control theory in the 1960s, its subsequent evolution, its achievements and failures and its currently contested status. What are the differences between disarmament and arms control? Who 'invented' the term and why? Is the concept universally applicable or does it have a particular American or Western bent? Can it be applied to all types of weaponry in addition to nuclear weapons? Are the original arms control agreements still in place and how have they fared? Is arms control currently dead or dying?

Required reading

'Nuclear deterrence of nuclear attack in theory and practice', pp. 165-178, Barry Buzan and Eric Herring, *The Arms Dynamic in World Politics*, Lynne Rienner, Boulder and London, 1998

'Arms control', chapter 16, Barry Buzan, *An Introduction to Strategic Studies: Military Technology and International Relations*, Macmillan, London, 1987

Christopher Ford, 'A new paradigm: shattering obsolete thinking on arms control and nonproliferation', *Arms Control Today*, November 2008

Recommended additional reading

Trevor Findlay, 'Weapons of mass destruction' in Edward Newman, Ramesh Thakur and John Tirman (eds), *Multilateralism Under Challenge?: Power, International Order, and Structural Change*, United Nations University Press, Tokyo, 2006

Hedley Bull, *The Control of the Arms Race*, Praeger, New York, 1961

Thomas C. Schelling and Morton H. Halperin, *Strategy and Arms Control*, Pergamon-Brassey's, Washington DC, 1985

'Introduction and rationale', chapter 1 and 'Traditional strategic arms control', chapter. 2, Michael A. Levi and Michael E. O'Hanlon, *The Future of Arms Control*, Brookings Institution Press, Washington DC, 2005

WEEK 6 NONPROLIFERATION: THE CASE OF NUCLEAR WEAPONS

This class deals with nonproliferation theory, its successes and its failures, with particular reference to nuclear weapons, the 1968 Nuclear Non-Proliferation Treaty (NPT), nuclear safeguards and associated elements of the nuclear nonproliferation 'regime'. Which states were crucial in envisioning and negotiating the NPT and the broader nonproliferation regime? What are the main achievements and criticisms of the regime? How have divisions between the 'nuclear haves' and 'nuclear have nots' affected the operation of the regime? How is monitoring and verification of compliance accomplished? What are the achievements and failures of nuclear safeguards and how are the latter being rectified? Do non-compliance cases like North Korea, Syria, Iran and Iraq threaten the nonproliferation regime's future? How does the review process for the NPT help maintain or detract from the regime. What role do nuclear weapon-free zones play? What role do export control regimes play and why are they controversial?

Required readings

Primary documents

Nuclear Nonproliferation Treaty, 1968, www.iaea.org/Publications/Documents/Treaties/npt.html

IAEA model nuclear safeguards agreement, INFCIRC 153, 1971 [skim], www.iaea.org/Publications/Documents/Infcircs/Others/infcirc153/pdf

Model Additional Protocol, INFCIRC 540 (Corrected), September 1997 [skim], www.iaea.org/Publications/Documents/Infcircs/1997/infcirc540c.pdf

Analysis

'The Nuclear Nonproliferation Treaty: the Past 40 Years', *Arms Control Today*, June 2008

'Nuclear nonproliferation', chapter 2, *Nuclear Weapons: The State of Play, Centre for Nuclear Non-Proliferation and Disarmament*, Australian National University, Canberra, 2013, www.cnnd.anu.edu.au

Jacques E.C. Hymans, 'Theories of nuclear proliferation: the state of the field', *Nonproliferation Review*, vol. 13, no. 3, November 2006

Recommended additional readings

Jeffrey W. Knopf, *Security Assurances and Nuclear Nonproliferation*, Stanford University Press, Palo Alto, 2012

Lewis A. Dunn, 'Countering proliferation: insights from past "wins, losses, and draws', *Nonproliferation Review*, vol. 13, no. 3 November 2006

Lawrence Scheinman, *The International Atomic Energy Agency and Nuclear World Order*, Resources for the Future, Washington DC, 1987

Trevor Findlay, *Nuclear Energy and Global Governance: Ensuring Safety, Security and Nonproliferation*, Routledge, London, 2011

Trevor Findlay, *Unleashing the Nuclear Watchdog: Strengthening and Reform of the International Atomic Energy Agency*, Centre for International Governance Innovation (CIGI), Waterloo, ON, July 2012

Adam N. Stulberg and Matthew Fuhrmann (eds), *The Nuclear Renaissance and International Security*, Stanford University Press, Palo Alto, 2013

WEEK 7 CHEMICAL AND BIOLOGICAL DISARMAMENT AND ARMS CONTROL

This class covers the chemical and biological weapons (CBW) control regimes and their varying challenges. Why are chemical and biological weapons considered to be 'weapons of mass destruction'? What has been their historical use or non-use. What disarmament and arms control regimes are currently applicable to them? What does the recent case of Syria tell us about the health of the CW regime? Since the biological weapons control regime is much less developed than that for CW, what is the future of efforts to strengthen it? Is there a growing threat of chemical and biological warfare due to technological developments in the biological sciences such as genetic engineering?

Required reading

Primary documents

The Chemical Weapons Convention, 1993 [skim the annexes], www.-opcw.org/chemical-weapons-convention/

The Biological and Toxin Weapons Convention, 1972, www.opbw.org/convention/documents/btwctext.pdf

Analysis

Ralf Trapp, 'The Chemical Weapons Convention—multilateral instrument with a future', chapter 2, in Ramesh Thakur and Ere Haru (eds), *The Chemical Weapons Convention: Implementation, Challenges and Opportunities*, United Nations University Press, Tokyo, 2006

Marie Chevrier, 'The Biological Weapons Convention: the protocol that almost was', *Verification Yearbook 2001*, VERTIC, London, 2001

John Hart and Ralf Trapp, 'Science, technology and the Biological Weapons Convention', *Arms Control Today*, October 2012

Recommended additional reading

Jeremy Littlewood, *The Biological Weapons Convention: a Failed Revolution*, Ashgate Publishing, London, 2005

Alexander Kelle, Kathryn Nixdorff and Malcolm Dando, *Preventing a Biological Arms Race*, Stanford University Press, Palo Alto, 2012

Alexander Kelle, *Prohibiting Chemical and Biological Weapons: Multilateral Regimes and their Evolution*, Lynne Rienner, Boulder, CO, 2013

Ramesh Thakur and Ere Haru (eds), *The Chemical Weapons Convention: Implementation, Challenges and Opportunities*, United Nations University Press, Tokyo, 2006

WEEK 8 MONITORING AND VERIFICATION: THE CASE OF NUCLEAR TESTING

This class deals with the theory behind and role of monitoring and verification in disarmament and arms control regimes, with the 1997 Comprehensive Nuclear Test Ban Treaty (CTBT) regime and the Preparatory Commission for the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO), along with its global monitoring system, as exemplar. Why the need for a nuclear test ban? What was the historical process by which it was achieved? What is the current status of the nuclear testing regime and what is the technical efficacy of the verification system? What are the future prospects for monitoring and verification generally given rapid technological developments, notably in the areas of telecommunications, computer technology, artificial intelligence and autonomous systems such as drones and robots.

Required reading

Comprehensive Nuclear Test Ban Treaty, 1997, especially Article IV, Verification, www.ctbto.org/the-treaty/

Website of the Preparatory Commission for the Comprehensive Nuclear Test Ban Treaty Organization: www. ctbto.org for latest information on the global verification system

Analysis

'Verification', chapter 1 and 'Verification systems, techniques and technologies', chapter 2, Verification Research, Training and Information Centre, *Coming to Terms with Security: A Handbook on Verification and Compliance*, UNIDIR, Geneva, 2003

Nancy Gallagher, 'The politics of verification: why "how much?" is not enough', Nancy Gallagher (ed.), *Arms Control: New Approaches to Theory and Policy*, Frank Cass Publishers, London, 1998

David Hafemeister, 'The Comprehensive Test Ban Treaty: effectively verifiable', *Arms Control Today*, October 2008, www.armscontrol.org

Recommended additional reading

Keith A. Hansen, *The Comprehensive Nuclear Test Ban Treaty: An Insider's Perspective*, Stanford University Press, Stanford, 2006

Allan S. Krass, 'The politics of verification', *World Policy Journal*, fall, 1985

WEEK 9 COMPLIANCE AND ENFORCEMENT: THE CASE OF IRAN

This class provides a survey of the issue of compliance and compliance mechanisms, including enforcement, with Iran as a case study. Why is the question of non-compliance and how to deal with it so critical to the success of disarmament and arms control efforts? What are various arrangements designed to deal with non-compliance cases? What role do sanctions and the use of force play? What has the long-running saga of Iran's non-compliance been about and why has it been so protracted? What are the prospects for its resolution? What does the Iran case tell us about the challenges of compliance and enforcement?

Required reading

Primary documents

Latest IAEA report on Iran (see www.iaea.org)

Analysis

Olli Heinonen, 'The rocky road of nuclear diplomacy with Iran', *Arms Control Today*, July/August 2012

'Conclusion' Seyed Hossein Mousavian, *Iranian Nuclear Crisis: A Memoir*, Carnegie Endowment for International Peace, Washington DC, 2012

Harold A. Feiveson and Jacqueline W. Shire, 'Dilemmas of compliance with arms control and disarmament agreements', chapter 8 in Edward C. Luck and Michael W. Doyle (eds), *International Law and Organization: Closing the Compliance Gap*, Rowman & Littlefield Publishers, Inc., Lanham, MD, 2004

Recommended additional reading

David Cortright and George A. Lopez, 'Bombs, carrots and sticks: the use of incentives and disincentives', *Arms Control Today*, March 2005, www.armscontrol.org

George Perkovich et al, *2007 Report Card on Progress, Universal Compliance: a Strategy for Nuclear Security*, Carnegie Endowment for International Peace, Washington DC, June 2007

Charles L. Pritchard, *Failed Diplomacy: The Tragic Story of How North Korea Got The Bomb*, Brookings Institution Press, Washington DC, 2007

Thérèse Delpech, *Iran and the Bomb: the Abdication of International Responsibility*, Colombia University Press, New York, 2007

Robert Galluci and Michael J. Green, 'Nuclear shockwaves: two views on ending North Korea's nuclear program', *Arms Control Today*, November 2006, www.armscontrol.org

WEEK 10 COOPERATIVE THREAT REDUCTION AND COUNTERPROLIFERATION: THE SOVIET LEGACY, THE A.Q. KHAN NETWORK AND THE TERRORIST THREAT

This class considers how and why concepts additional to nonproliferation came into being and how they differ from each other. What is the Soviet weapons legacy and how has it been dealt with? Is there further work to be done? How did the revelation of a Pakistan-based nuclear smuggling network led by A.Q. Khan shift the nonproliferation focus? How successful have efforts been to close down the network and ensure such challenges do not return? Are arms control and nonproliferation irrelevant in dealing with the threat of terrorism? How have they adapted? Why has nuclear security become such an important contemporary topic and what are the achievements to date? What is the current threat of nuclear terrorism?

Required reading

'Introduction: the core', Adrian Levy and Catherine Scott-Clark, *Deception: Pakistan, the United States, and the Secret Trade in Nuclear Weapons*, Walker Publishing Company, New York, 2007

'Illicit nuclear trade today and the way forward', chapter 12, David Albright, *Peddling Peril: How the Secret Nuclear Trade Arms America's Enemies*, Free Press, New York, 2010

'The continuing danger of nuclear theft and terrorism', chapter 2, Matt Bunn, *Securing the Bomb 2010: Securing all Nuclear Materials in Four Years*, Project on Managing the Atom, Belfer Center for Science and International Affairs, Harvard University, April 2010, www.nti.org/securingthebomb

Recommended additional reading

Nancy Gallagher (ed.), *Arms Control: New Approaches to Theory and Policy*, Frank Cass Publishers, London, 1998

Rose Gottemoeller, 'Cooperative threat reduction beyond Russia', *Washington Quarterly*, spring 2005

Robin M. Frost, 'Nuclear terrorism after 9/11', *Adelphi Paper* 178, International Institute for Strategic Studies (IISS), London, 2005

Jeffrey A. Larsen and James L. Wirtz (eds), *Arms Control and Cooperative Security*, Lynn Rienner, Boulder, CO, 2009

'The paradigm shifts', chapter 1 in Michael Krepon, *Cooperative Threat Reduction, Missile Defense, and the Nuclear Future*, Palgrave Macmillan, New York, 2003

WEEK 11 CONVENTIONAL ARMS CONTROL

This class covers disarmament, arms control and nonproliferation efforts in respect of conventional arms, including classic agreements like the 1990 Conventional Forces in Europe (CFE) Treaty, the Stockholm confidence-building process, the successful treaty-making effort to control anti-personnel landmines through the 1997 Ottawa Convention and the 2013 Arms Trade Treaty. The class will also touch on the laws of war as they relate to the control of the use of armaments. What is the difference between conventional arms control and the laws of war? How far back do efforts to achieve conventional disarmament go? Why have they been largely unsuccessful? What are the factors that have produced success in particular cases? What role do efforts to achieve greater transparency play? What role does civil society and public interest and pressure play?

Required reading

Primary documents

Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (Ottawa Convention), 1997 [skim], www.un.org/Depts/mine/UNDocs/ban-trty.htm

Arms Trade Treaty, 2013, United Nations Conference on the Arms Trade Treaty, UN document [skim], http://www.un.org/disarmament/ATT/docs/ATT_text_(As_adopted_by_the_GA)-E.pdf

Analysis

'Major findings', *Landmine Monitor 2013*, International Campaign to Ban Landmines, http://www.themonitor.org/index.php/publications/display?url=lm/2013/

'Advancing the Arms Trade Treaty: An Interview with U.S. ATT Negotiator Thomas Countryman', *Arms Control Today*, April 2014, www.armscontrol.org

'Conventional arms control and regional conflict, chapter 6, Michael A. Levi and Michael E. O'Hanlon, *The Future of Arms Control*, Brookings Institution Press, Washington DC, 2005

Recommended additional reading

Ian Anthony et al, 'Conventional arms control and military confidence-building', chapter 9, *SIPRI Yearbook 2013*, Stockholm International Peace Research Institute (SIPRI), Stockholm, 2013, http://www.sipri.org/yearbook/2013/09

Small Arms Survey, *Annual Report 2009: Shadows of War*, Geneva (http://www.smallarmssurvey.org/files/sas/publications/yearbooks.html

Peter Jones, *Open Skies: Transparency, Confidence-Building and the End of the Cold War*, Stanford University Press, Stanford, 2014

WEEK 12 SPACE AND OTHER FUTURE CHALLENGES

The course concludes with an examination of the key issues involved in space arms control and other future challenges to disarmament, arms control and nonproliferation, as well as reviewing the basic themes of the course. Is there a technology race between weaponry and arms control efforts? Can technology both thwart and assist arms control efforts? Is there an arms race in outer space and if so how might it be constrained? Are other new technologies threatening to international security and how might arms control and disarmament efforts assist in dealing with the threat? What is the threat from cyber warfare and autonomous systems such as drones and robots? What is the overall future of disarmament, arms control and nonproliferation as tools of statecraft?

Required reading

Executive Summary, *Space Security Index 2013*, 10th edition, www.spacesecurity.org, Project Ploughshares, Waterloo, ON, http://swfound.org/media/109727/SSI_Executive_Summary_2013.pdf

Detlov Volter, 'The UN takes a big step forward on Cybersecurity', *Arms Control Today*, September 2013, www.armscontrol.org

'Introduction', Matthew Evangelista, *The American Way of Bombing: Changing Ethical and Legal Norms, from Flying Fortresses to Drones*, Cornell University Press, Ithaca, 2014

'Controlling the new technologies', chapter 4, Michael A. Levi and Michael E. O'Hanlon, *The Future of Arms Control*, Brookings Institution Press, Washington DC, 2005

Recommended additional reading

Lukas Kello, 'The meaning of the cyber revolution: perils to theory and statecraft', *International Security*, vol. 38, no. 2, Fall 2013

Matthew Bunn and Anthony Weir, *Securing the Bomb: an Agenda for Action*, Project on Managing the Atom, Belfer Center for Science and International Affairs, Harvard University, 2006

Michael Moodie, 'Book review: Innovation, *Dual Use, and Security: Managing the Risks of Emerging Biological and Chemical Technologies* by Johnathan B. Tucker (ed.), MIT Press, Cambridge 2012', *Arms Control Today*, September 2012