

INTA 8803

# 21<sup>ST</sup> CENTURY DETERRENCE

Fall 2010



## **Dr. Margaret E. Kosal**

Sam Nunn School of International Affairs

3 credits

12:05 - 14:55PM W

Ivan Allen College G17

Office hours: *TBD*  
& by appointment  
Habersham 303  
nerdgirl@gatech.edu

## **Overview**

This seminar will explore the structures, strategies, and major objectives of national security policy toward deterrence in the 21<sup>st</sup> century. We will address the history, strategic and operational foundations, theory and the role of the theorist, practice and the role of the practitioner, the evolution of US foreign policy, current trends, and the future of deterrence across the geo-political spectrum. Attention will be given to the nuclear deterrence and strategic stability. Guest speakers are planned. Questions to be explored include: What does deterrence look like today and how does it differ from deterrence in the 20<sup>th</sup> Century? Who are the foremost deterrence theorists and practitioners today and why? How have strategies evolved and what is the anticipated future of deterrence toward nuclear and other unconventional weapons and emerging challenges? What are the characteristics of successful and unsuccessful deterrent efforts? What are challenges for effectively implementing and executing deterrence strategies in the 21<sup>st</sup> century? What is the role or perils of technology for deterrence? Students will be required to make class presentations on an assigned topic, prepare an action memo collaboratively that addresses address and makes recommendations on an issue of their choosing related to current or future deterrence challenges, and participate in a National Security Council simulation.

## **Class Requirements**

- 1) Attendance & participation (10%)
- 2) Article review (15%)
- 3) Assigned presentation (25%)
- 4) Collaborative policy memo (25%)
- 5) National Security Council Simulation (25%)

### **Attendance and Participation**

You are expected to make reasonable efforts to attend all classes and participate actively. I recognize that both anticipated and unanticipated events may overlap with the regularly scheduled class.

### **Article Review**

Chose one scholarly article or other acceptable paper related to the course (get approval *a priori*) to critically analyze and submit a 1000 ( $\pm 100$ ) word review. Additional guidance will be distributed in class.

Article review is due no later than (NLT) 1800 Wednesday, 29 September (week 6).

### **Assigned Presentation**

Throughout the semester, you will present (20-30 minutes) on a topic from the syllabus. Topics will be assigned during the first class. Additional guidance will be discussed in class.

### **Collaborative Policy Memo**

These will be done in pairs, *working together*. One person will assume the role of representing national defense concerns (e.g., DoD); the other will assume the position of representing foreign policy interests (e.g., State Dept). Together you will choose a topic related to the course and generate policy recommendations. The deliverables will be (1) an individually-crafted 1 to 2-page policy info memo written from your perspective (as either representing national defense or foreign policy matters) and (2) a jointly-crafted 3 to 5-page white paper reconciling the two positions and recommending actions (such as to the National Security Council). From each pair of students, I should receive three documents. Further guidance will be distributed in class

Formatting

Length: Indicated above.

Font size: Maximum 12-point font, minimum 10-point.  
Margins: No larger than 1" all around.  
Grammar counts.

#### Submission

Electronic (pdf or MS Word).

Each group will be responsible for a 30 minute presentation on their policy proposal: 20 minutes for the reconciled proposal and recommendations and 10 minutes for questions from the class.

Collaborative policy memo groups & topics are due NLT 0900 Monday, 18 October (week 9).

Collaborative policy memo is due NLT 1200 Monday, 30 November (week 15) and will be presented in class on Wednesday, 1 December (week 15).

#### Grade Change Policy

Appeals for grade changes should be reasonable both in argument and submission time, i.e., within two weeks of return. Specific detailed information on grade change will be distributed upon return of assignments.

#### Late Assignment Policy

Generally, late assignments without documented excuse as outlined in Georgia Tech official policy will not be accepted. If you have a scheduling conflict, please contact me before the assignment is due.

#### Course Materials

The required texts are a mix of books and monographs:

- (1) TV Paul, Patrick Morgan, & James Wirtz (eds), Complex Deterrence, University of Chicago Press, 2009
- (2) Keith Payne, The Great Gamble: Deterrence Theory and Practice from the Cold War to the Twenty-First Century, National Institute Press, 2008
- (3) Thomas Preston, From Lambs to Lions: Future Security Relationships in a World of Biological and Nuclear Weapons, Rowman & Littlefield, 2009
- (4) John Arquilla (ed), In Athena's Camp, RAND, 1997
- (5) Colin S. Gray, *Maintaining Effective Deterrence*, Strategic Studies Institute, April 2003, available at <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?PubID=211>

- (6) Colin S Gray, *Transformation and Strategic Surprise*, Strategic Studies Institute, April 2005, available at <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=602>
- (7) Colin S. Gray, *Recognizing and Understanding Revolutionary Change in Warfare: The Sovereignty of Context*, Strategic Studies Institute, February 2006, available at <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=640>
- (8) Martin Libicki, *Cyberdeterrence and Cyberwar*, RAND, 2009, available at <http://www.rand.org/pubs/monographs/MG877/>
- (9) Forrest Morgan, *Deterrence and First-Strike Stability in Space A Preliminary Assessment*, RAND, 2010, available at <http://www.rand.org/pubs/monographs/MG916/>
- (10) Defense Science Board, *21st Century Strategic Technology Vectors*, Volume 1 (Main Report), February 2007, <http://www.acq.osd.mil/dsb/reports/ADA463361.pdf>

All texts are (*or should be*) available at Engineer's Bookstore on Marietta Ave, NW.

Other short articles will be required reading; these will be announced in class and posted on the T-square course website (<https://t-square.gatech.edu>).

### **Academic Integrity**

For all assignments, materials, and exams, you are expected to maintain the highest academic integrity.

Per the Georgia Tech Honor Code, plagiarism is an act of academic misconduct. The Georgia Tech Honor Code specifies: "Plagiarism' is the act of appropriating the literary composition of another, or parts of passages of his or her writings, or language or ideas of the same, and passing them off as the product of one's own mind. It involves the deliberate use of any outside source without proper acknowledgment." Plagiarism ranges from the blatant – purchasing a term paper or copying on an exam – to the subtle – failing to credit another author with the flow of ideas in an argument. Simply changing a few words from the writings of other authors does not alter the fact that you are essentially quoting from them. Paraphrasing of this sort, where you use the words of another almost verbatim without acknowledging your source, is the most common form of plagiarism among undergraduate students and academics. When you state another author's viewpoint, theory, or hypothesis – especially when it is original or not generally accepted – you must also include a reference to the originator. In general citations are unnecessary when the information is considered common knowledge or a matter of widespread agreement or controversy.

For more information on the Georgia Tech Honor Code, please see <http://www.honor.gatech.edu>.

**Accommodations for students with disabilities**

Per Georgia Tech policy: if you have a significant disability, special arrangements will be made to accommodate documented needs (through the ADAPTS office). Please contact me after class or at your earliest convenience.

**THE SYLLABUS IS DYNAMIC AND  
IS LIKELY TO BE UPDATED  
THROUGHOUT THE SEMESTER.**

## Course Calendar and Content

### WEEK 1

**25 August:** Deterrence Theory Origin, History, Basics, and Arguments; Compellence, Dissuasion

- Colin S Gray, *Maintaining Effective Deterrence*
- General Kevin P Chilton, “2009 Deterrence Symposium Opening Remarks,” Omaha, Nebraska, 29 July 2009,  
[http://www.stratcom.mil/speeches/24/2009\\_Deterrence\\_Symposium\\_Opening\\_Re\\_marks/](http://www.stratcom.mil/speeches/24/2009_Deterrence_Symposium_Opening_Re_marks/)
- Robert Gates, “Nuclear Weapons and Deterrence in the 21<sup>st</sup> Century,” Remarks at the Carnegie Endowment for International Peace, 28 October 2008,  
[http://carnegieendowment.org/files/1028\\_transcrip\\_gates\\_checked.pdf](http://carnegieendowment.org/files/1028_transcrip_gates_checked.pdf)
- Complex Deterrence, Chapter 1
- The Great American Gamble, Foreword and Chapters 1 & 2

### WEEK 2

**1 September:** Deterrence People and Policy

- Complex Deterrence, Chapters 2 & 3
- The Great American Gamble, Chapters 3-5

Optional:

- Jeffrey W Knopf, “The Fourth Wave in Deterrence Research,” *Contemporary Security Policy*, April 2010, 31, pp 1-33.
- Defense Science Board, *Nuclear Deterrence Skills*, September 2008,  
<http://www.acq.osd.mil/dsb/reports/ADA487983.pdf>
- Clark A Murdock, *The Department of Defense and the Nuclear Mission in the 21st Century: A Beyond Goldwater-Nichols Phase 4 Report*, March 2008,  
<http://csis.org/files/media/csis/pubs/080305-murdock-nuclearmission.pdf>
- *U.S. Nuclear Deterrence in the 21st Century: Getting it Right*, The New Deterrent Working Group, July 2009,  
<http://204.96.138.161/upload/wysiwyg/center%20publication%20pdfs/NDWG-%20Getting%20It%20Right.pdf> (or <http://tiny.cc/1rx0u>)
- *Nuclear Weapons in 21st Century U.S. National Security*, Report by a Joint Working Group of AAAS, the American Physical Society, and the Center for Strategic and International Studies, December 2008,  
<http://www.aps.org/policy/reports/popa-reports/upload/nuclear-weapons.PDF>

### WEEK 3

#### 8 September: New Nuclear States; Iran

- Complex Deterrence, Chapter 8
- From Lambs to Lions, Chapter 3
- The Great American Gamble, Chapters 6 & 7

#### Optional:

- C Braun & Christopher F Chyba, “Proliferation Rings: New Challenges to the Nuclear Nonproliferation Regime,” *International Security*, Fall 2004, 29, pp 5-49.
- Alexander H Montgomery, “Ring in Proliferation: How to Dismantle an Atomic Bomb Network,” *International Security*, Fall 2005, 30, pp 153-187.
- Francis J. Gavin, “Same As It Ever Was: Nuclear Alarmism, Proliferation, and the Cold War,” *International Security*, Winter 2009/10, 34, pp 7-37.

### WEEK 4

#### 15 September: Great & Small Powers

- Complex Deterrence, Chapters 6, 7, 10, 11, & 12
- From Lambs to Lions, Chapter 1
- The Great American Gamble, Chapters 8 & 9

#### Optional:

- W Andrew Terrill, *Escalation and Intra-war Deterrence During Limited Wars in the Middle East*, Strategic Studies Institute, September 2009, available at <http://www.strategicstudiesinstitute.army.mil/pdffiles/pub941.pdf>

### WEEK 5

#### 22 September: Insurgencies & Non-State Actors

- Complex Deterrence, Chapter 4 & 9

#### Optional:

- Emanuel Adlera, “Damned If You Do, Damned If You Don’t: Performative Power and the Strategy of Conventional and Nuclear Defusing,” *Security Studies*, May 2010, 19, pp 199-229.
- James R Van De Veldea, “The Impossible Challenge of Deterring ‘Nuclear Terrorism’ by Al Qaeda,” *Studies in Conflict & Terrorism*, August 2010, 33, pp 682-699.

**WEEK 6**

**29 September:** No class

**S.NET - Germany**

**Short article review due NLT 1800 Wednesday, 29 September**

**WEEK 7**

**6 October:** Nuclear Terrorism

- Complex Deterrence, Chapter 5

Optional:

- Jonathan Hagood, “Dissuading Nuclear Adversaries: The Strategic Concept of Dissuasion and the U.S. Nuclear Arsenal,” *Comparative Strategy*, 2005, 24, pp 173-184.

**WEEK 8**

**13 October:** No class

**ISSS-ISAC**

**WEEK 9**

**Policy memo topics due NLT 0900 Monday, 18 October.**

**20 October:** Biological Weapons & Bioterrorism

- From Lambs to Lions, Chapters 4-6
- Barry Kellman, “Smallpox Terrorism,” and “Summary of the Institute’s June 2009 Smallpox Workshop/DTRA Small Pox Workshop Summary,” both available at <http://biopolicy.org/reports-publications>
- Martin Enserink, “How Devastating Would a Smallpox Attack Really Be?” *Science*, 31 May 2002, vol 296, no 5573, pp 1592-1595, <http://www.sciencemag.org/cgi/content/summary/296/5573/1592>
- Gigi Kwik Gronvall, “Preventing the Development and Use of Biological Weapons,” *Biosecurity and Bioterrorism*, March 2009, 7, pp 31-32, <http://www.liebertonline.com/doi/pdf/10.1089/bsp.2009.1003>



## Optional:

- Francisco Galamas, “Biotechnology and Biological Weapons: Challenges to the U.S. Regional Stability Strategy,” *Comparative Strategy*, April 2009, 28, pp 164-169.
- Mark Wheelis & Malcolm Dando “On the Brink: Biodefence, Biotechnology and the Future of Weapons Control,” *The CBW Conventions Bulletin*, December 2008, no. 58, pp 3-7, <http://www.fas.harvard.edu/~hsp/bulletin/cbwcb58.pdf>
- James B Petro, Theodore R Plasse, & Jack A McNulty, “Biotechnology: Impact on Biological Warfare and Biodefense,” *Biosecurity and Bioterrorism*, 2003, 1, pp 161-168.

**WEEK 10****27 October:** RMA

- Complex Deterrence, Chapter 13
- In Athena’s Camp, Chapters 1, 3-6
- CS Gray, *Transformation and Strategic Surprise*
- CS Gray, *Recognizing and Understanding Revolutionary Change in Warfare*

## Optional:

- Manjeet S Pardesi, “Impact of RMA on Conventional Deterrence: a Theoretical Analysis,” 2005, RSIS Working Paper 92, <http://dr.ntu.edu.sg/handle/10220/4486>

**WEEK 11****3 November:** Cyber

- In Athena’s Camp, Chapters 2, 7-19

## Optional:

- *Global Cyber Deterrence: Views from China, the U.S., Russia, India, and Norway*, April 2010, <http://www.ewi.info/system/files/CyberDeterrenceWeb.pdf>
- National Research Council, Committee on Deterring Cyberattacks, “Letter Report for the Committee on Deterring Cyberattacks: Informing Strategies and Developing Options for U.S. Policy,” 2010, <http://www.nap.edu/catalog/12886.html>

**WEEK 12****10 November:** Cyber

- Martin Libicki, Cyberdeterrence and Cyberwar

### WEEK 13

**17 November:** Space, Robots, UAVs

- Forest Morgan, [Deterrence and First-Strike Stability in Space A Preliminary Assessment](#)
- Vice Admiral Carl V Mauney, “Space Weapons in the 21st Century,” Washington, DC, 29 January 2009, [http://www.stratcom.mil/speeches/19/Space Weapons in the 21st Century](http://www.stratcom.mil/speeches/19/Space%20Weapons%20in%20the%2021st%20Century)

### WEEK 14

**THANKSGIVING RECESS 24 November NO CLASS**

### WEEK 15

**Policy memo due NLT 1200 Monday, 30 November.**

**1 December:** National Security Council Simulation

### WEEK 16

- 8 December:** Technology in Modern Deterrence Efforts and Future War
- TX Hammes, “Fourth Generation Warfare Evolves, Fifth Emerges,” *Military Review*, May/June 2007, pp 14-23, <http://usacac.army.mil/CAC/milreview/English/MayJun07/Hammes.pdf>
  - DSB, *21st Century Strategic Technology Vectors*, Volume 1
  - “Strategic Implications of Emerging Technologies,” (Colloquium brief), Army War College, <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB927.pdf>. See also <http://www.strategicstudiesinstitute.army.mil/conf/panels-media-2009.cfm>

Optional:

- Malcolm Dando, “Scientific and Technological Change and the Future of the CWC: the Problem of Non-Lethal Weapons,” *Disarmament Forum*, 2002, vol 4, pp 33-44 <http://www.unidir.org/pdf/articles/pdf-art1824.pdf>

## **One Last Thought**

### **Collaboration, sharing ideas, etc.**

“Talk about your ideas. Help your colleagues work out their problems. Pay attention to what other people are doing, and see if you can learn something, or if you can contribute.

“Other than the mundane goal of getting your degree, you are in school to push back the frontiers of knowledge. You do this by generating and exploring new ideas. There is no way that you will ever be able to explore all of the ideas that you generate, but some of those ideas that you discard might be just what some of your colleagues are looking for.

“Human nature tends to make us want to hoard our own ideas. You have to fight against that. Human nature also tends to make us treat other people's ideas with disrespect. The closer the idea to our own area of research, the more likely some part of our brain will try to find fault with it. Fight against that even harder.

“You will find many people in academia who give in to the dark side. These Stealth Researchers never discuss what they are working on, except in vague and deceptive terms. They are experts at finding fault with the work of their colleagues. The Stealth Researcher writes papers that make very grand claims, but you can never quite figure out what they've accomplished and what they haven't. He is a master at omitting the key detail of the design or process that would enable others to follow his work. The Stealth Researcher is a knowledge diode, a roach motel for information. He has replaced the fundamental goal of discovery and publication with the twin evils of ego and empire.

“Be open about what you are working on. Be honest about what you've done, and even more honest about what you haven't. Don't ever hide an idea for fear that someone will steal it, even if you are talking to a Stealth Researcher. With patience, maybe we can cure them.”

*Prof Kristofer S.J. Pister*

*Electrical Engineering and Computer Science*

*UC Berkeley*