

University of Massachusetts-Lowell
School of Criminology and Justice Studies

CRIM 3480.201: Advanced Seminar on Weapons of Mass Destruction and Terrorism

Spring 2016

Tues./Thurs. 12:30pm-1:45pm
Health and Social Sciences Building 155

Course Instructor

Jared R. Dmello

E-mail: jared_dmello@uml.edu

Phone: 978-934-4830

Office: HSSB 442

Office Hours: Tues/Thurs 10:30am-12:00pm and 1:45-3pm, *or by appointment*

The instructor reserves the right to modify this syllabus as necessary.

Course Overview

This course offers an initial examination of unique security challenges associated with weapons of mass destruction (WMD) and the threat of a terrorist group acquiring and using WMD. The first part of the course will examine the scientific and technological details of chemical, biological, radiological, and nuclear (CBRN) weapons. Then, we will explore the WMD threat to critical infrastructure, efforts to constrain the proliferation of CBRN weapons, and the role of the intelligence community, state and local responders, and community resilience in responding to the complex threat of WMD.

Course Learning Goals

Upon completion of the course, students will be able to articulate a solid understanding of:

- The basic types, components, and effects of chemical, biological, radiological and nuclear weapons
- The complex challenges of transnational WMD proliferation;
- Modern state-based WMD challenges, including Iran, North Korea, Syria, Pakistan, and Russia;
- The growing threat of WMD terrorism (including from al-Qaida, Jemaah Islamiyah, Chechen insurgent groups, and extremists in the U.S.);
- International, federal, state, and local responses to the WMD terrorist threat

Course Textbooks (Required)

The following textbook will be required for this course:

Weapons of Mass Destruction and Terrorism

Authors/Editors: James Forest and Russell Howard

Edition/Copyright: 2nd Edition, 2012, McGraw-Hill

ISBN: 978-007-8026225

Be sure you get the 2012 edition of this book (not the older 2007 edition). I highly recommend obtaining a copy of *The Terrorism Lectures (2nd edition)*, by James Forest (the book used in the Terrorism CRIM 2480 course I teach). Additional material will be listed with a website, e-mailed to students, or posted on the course **Blackboard Learn course**.

World at Risk: The Report of the Commission on the Prevention of WMD Proliferation and Terrorism

Authors: Bob Graham (Chairman) and Jim Talent (Vice-Chairman)

Edition/Copyright: 2008, Vintage Books

ISBN: 978-0-307-47326-4

This text is available for free via the course blackboard site.

Please consult the instructor with any questions you may have about books or journal articles you want to use for resources in preparing your research project for this class. Also, online resources of specific interest to students in this course include the following:

Center for Terrorism & Security Studies	http://www.uml.edu/ctss
Nuclear Threat Initiative	http://www.nti.org
Center for Nonproliferation Studies	http://cns.miis.edu
The Counterterrorism Blog	http://counterterrorismblog.org
The CTC Sentinel	http://www.ctc.usma.edu/sentinel
The Belfer Center, Harvard University	http://belfercenter.ksg.harvard.edu
Global Threat Reduction Initiative	http://nnsa.energy.gov/gtri
Proliferation Security Initiative	http://www.state.gov/t/isn/c10390.htm
Federation of American Scientists	http://www.fas.org
Carnegie Endowment for International Peace	http://www.carnegieendowment.org
Defense Threat Reduction Agency	http://www.dtra.gov
RAND Corporation	http://www.rand.org
Center for International Security & Cooperation	http://www.cisac.stanford.edu

MAJOR ASSIGNMENTS

1) Block Exams (400 points - 40% of final grade)

This course is divided into blocks of instruction, with four blocks focused on each of the four main categories of WMD: chemical, biological, radiological, and nuclear. At the end of each block, there will be a 100-point exams to determine your familiarity with, and retention of, material presented in that block. The dates of these exams are as follows:

Feb 4	Chemical Weapons Exam
Feb 18	Biological Weapons Exam
Mar 1	Radiological Weapons Exam
Mar 22	Nuclear Weapons Exam

There are no makeup assignments for missed or failed exams.

2) WMD Threat and Response Scenario (250 points - 25% of final grade)

The major assignment for this course requires you to create a scenario with details about a fictional but realistic WMD terrorist threat and a strategy for how government agencies should respond. This project will be developed over the course of the semester and should reflect what you have learned in this course. You will be expected to incorporate scholarly articles, books, reports, and other materials. Some websites may be okay, but do so sparingly. **More information is provided in the “WMD Threat Scenario Guidance”** handout (distributed in class and available on Blackboard). This project will have four parts, due to TurnItIn.com by **Friday, April 22, 2016, at 11:59PM.**

3) Final Exam (300 points - 30% of final grade)

Our final will be scheduled for a 3-hour period, TBD by the University between May 2 and May 9. It will be cumulative (i.e., all main topics on the syllabus will be included).

4) Class Participation (50 points - 5% of final grade)

In this class, students are considered valued colleagues in the learning process. You are expected to come prepared to all class meetings, and to participate actively and meaningfully in all discussions. The grade calculation for this is simple – if you show up to every class, speak up regularly in class *with informed opinions that incorporate the reading assignments*, and generally demonstrate an active commitment to learning the material, you will receive 50 points. If you miss too many classes, or frequently come unprepared to class, you will receive 0 points. If the class does not come prepared to discuss the material, a brief quiz may be given to determine participation for that class session.

Graded Assignments Summary

Assignment	Due Date	% of Final Grade
Block Exams (4)	Scheduled	40%
WMD Threat & Response Scenario	April 22	25%
Final Exam	TBD	30%
Class Participation	Weekly	5%

COURSE POLICIES

Grading

All grades are weighted on a 4.0 system using the following allocation:

Grade	%	Grade	%
A	93.0-100%	C+	77.0-79.9%
A-	90.0-92.9%	C	73.0-76.9%
B+	87.0-89.9%	C-	70.0-72.9%
B	83.0-86.9%	D	67.0-69.9%
B-	80.0-82.9%	F	<67.0%

**** Note: Late assignments will automatically be reduced by one full-letter grade (10%) for every day late.**

More information about the University of Massachusetts-Lowell grading policies is available online at:

<https://www.uml.edu/Registrar/Grades-and-Transcripts/grading.aspx>

and

<https://www.uml.edu/Catalog-AY13/Undergraduate/Policies/Grading-Policies.aspx>

Make-up Exams and Assignments

Papers must be submitted to TurnItIn.com. **Papers received late will be automatically reduced by one full-letter grade (10%) for each 24-hour period after the deadline for that assignment.**

There are no make-up exams for the block exams.

Paper Grading Criteria

A range:

The paper is clear, engaging, original, and focused; ideas and content are richly developed with details and examples. Organization and form enhance the central idea and theme; ideas are presented coherently to move the reader through the text. The voice of the writer is compelling and conveys the writer's meaning through effective sentence structure and precise word choices. The writer successfully moves the paper through academic constructs and experiential documentation to critical analysis. The paper demonstrates a clear balance of these three components.

B range:

The paper is reasonably clear, focused, and well supported; ideas are adequately developed through details and examples. Organization and form are appropriate, and ideas are generally presented coherently. The voice of the writer contributes to the writer's meaning through

appropriate and varied sentence structure and word choices. Surface features do not interfere with understanding or distract from meaning. The writer has clearly brought the reader through properly cited academic constructs and experiential documentation, but has not fully developed the area of critical analysis.

C range:

The paper has some focus and support; ideas and content may be developed with limited details and examples. The writing may be somewhat disorganized or too obviously structured. The voice of the writer is generally absent; basic sentence structure and limited vocabulary convey a simple message. Surface feature errors may reduce understanding and interfere with meaning. The content areas of academic constructs are limited and large generalizations are made. Critical analysis is all but absent from the paper.

D range:

The paper has little focus and development; few details and examples support ideas and content. There is little discernible shape and no direction. The writer's tone is flat. Awkward sentence structure and inadequate vocabulary interfere with understanding. Limited control of surface features makes paper difficult to read. Critical analysis is absent, and segments of the paper are given to rambling descriptions of life experience without academic context.

Classroom Courtesy

Classroom courtesy is an essential component of creating an effective learning environment. All students have the right to learn without unnecessary distractions. These distractions include: cell phones, talking during lectures (unless recognized by the instructor), reading newspapers, falling asleep, etc. If you need a cell phone for emergency purposes, leave it on vibrate. Entering and leaving the classroom during the class period are also major sources of distraction. It is your responsibility to be on time and to stay for the entire period. In circumstances where you need to leave early, tell the instructor beforehand. Repeated disruptions of class will negatively impact your class participation grade.

Most importantly, class discussions of issues relating to politics, security strategies, and criminology, especially as they relate to terrorism, can lead to strong feelings and heated debate. Because this is a college classroom, all discussion must be respectful and scholarly.

Scholarly Comments:

- are respectful of diverse opinions and open to follow up questions and/or disagreement
- are related to class and/or the course material
- focus on advancing the discussion about issues related to the course and/or course material rather than personal beliefs, and
- are delivered in normal tones and a non-aggressive manner.

Unacceptable Comments:

- are personal in nature. This includes attacks on a person's appearance, demeanor, or political beliefs.

- include interrupting the instructor or other students. Raise your hand and wait to be recognized.
- often use the discussion to argue for political positions and/or beliefs. If political discussions arise, they must be discussed in a scholarly way (see above).
- may include using raised tones, yelling, engaging in arguments with other students and being threatening in any manner.
- include ignoring the instructor's authority to maintain the integrity of the classroom environment.

The instructor reserves the right to eject anyone from the classroom based on inappropriate behavior. The instructor also has the right to confiscate laptops, cell phones or other disruptive electronics that are being used in a manner that negatively impacts the learning environment.

Academic Integrity

Cheating and plagiarism should not be tolerated in any academic environment, and I intend to hold everyone equally accountable to that standard. If you witness an incident of concern, you should report it right away, as this protects the integrity of your own degree program. Please review the University policy on academic dishonesty, cheating and plagiarism at:

<https://www.uml.edu/Catalog/Graduate/Policies/Academic-Integrity.aspx>

Inclement Weather and Other Class Cancellations

If, for any reason, a class is unable to meet as regularly scheduled, the instructor will make that day's lecture slides available on the Blackboard website. Where feasible, a virtual class discussion may also be held, using the Blackboard Chat function (participation in these virtual discussions is voluntary). Most importantly, even though the class meeting has been cancelled, you are still required to do the reading assignment for that class. Keep in mind that even if the class doesn't meet, the assigned materials may still be on the midterm or final exams.

UMass Lowell Blackboard Access Information

To get your Blackboard username and password:

1. Go to <http://continuinged.uml.edu/online/confirmation>
2. Carefully enter the information required to retrieve your username and password.
3. Print out the confirmation screen for your records.

To access the online supplement for your course:

1. Go to <https://continuinged.uml.edu/login/login.cfm>
2. Enter your Blackboard username and password and click the Login button.

How to Get Technical Help (Monday - Friday 8:30am - 5:00pm EST)

If you are having problems with Blackboard, please contact the Division of Online and Continuing Education technical support:

Local Phone Number: 1-978-934-2467

Toll Free Number: 1-800-480-3190

CLASS SCHEDULE SUMMARY

Holidays: Mon. Feb 15 - President's Day (Tue. Feb 16 is a Monday class schedule)
 Tue. Mar 15 & Thu. Mar 17 – Spring Break

Block 1: Conceptual Frameworks			
Tue. Jan 19	Thu. Jan 21	Tue. Jan 26	
Block 2: Chemical Weapons			
Thu. Jan 28	Tue. Feb 2	Thu. Feb 4*	
Block 3: Biological Weapons			
Tue. Feb 9	Thu. Feb. 11	Thu. Feb 18*	
Block 4: Radiological Weapons			
Tue. Feb 23	Thu. Feb 25	Tue. Mar 1*	
Block 5: Nuclear Weapons			
Thu. Mar 3	Tue. Mar 8	Thu. Mar 10	Tue. Mar 22*
Block 6: Countering the WMD Terrorist Threat			
Thu. Mar 24	Tue. Mar 29	Thu. Mar 31	Tue. Apr 5
Thu. Apr 7	Tue. Apr 12		
Block 7: Assessing the Future WMD Terrorist Threat			
Thu. Apr 14	Tue. Apr 19	Thu. Apr 21	
Block 8: Counterterrorism Project			
Tue. Apr 26	Thu. Apr 28		

** denotes Unit Exam date*

DETAILED SCHEDULE

All required readings must be completed prior to the class meeting and lecture discussion for that lesson. In addition, a list of supplemental readings is provided toward the end of this syllabus, which students are *encouraged* to read as well. Likewise, students are highly encouraged to read additional articles posted to the course Blackboard site.

NOTE: Blackboard is used in this course to distribute assigned reading materials and to promote discussion. **Reading assignments available on Blackboard are indicated below with (*BB*).** See p. 7 for Blackboard access information. Also, please come prepared with your thoughts and ideas regarding the “Questions for Class Discussion” listed for each lesson.

BLOCK 1: CONCEPTUAL, FRAMEWORKS

Learning Objectives

The lecture, readings and discussions of this introductory section will help students develop an appreciation for the spectrum of weapons of mass destruction (WMD - chemical, biological, radiological, and nuclear, also referred to as “CBRN” weapons); the evolving nature of the threats posed by these weapons; states and violent non-state actors most interested in these kinds of weapons; and the unique challenges faced by states in responding to this particular form of security threat.

TUES. JANUARY 19

Required Readings

Review Tom Quiggin’s Research Note on Source and Information in Academic Research from *Perspectives on Terrorism*, Vol. 7, No. 1, pages 103-111. (Distributed in class and available on Blackboard).

ASSIGNMENT

Sign up for the Feedly news aggregator either online or through a mobile app (or both!) and subscribe to security-related sources. Feedly is a great way to keep up-to-date on current events in a quick, user-friendly fashion.

THURS. JANUARY 21

Required Readings

Textbook 1.2: James J.F. Forest, “Opportunities and Limitations for WMD Terrorism,” p. 55-72
Textbook 1.2: Leonard A. Cole, “WMD and Lessons from the Anthrax Attacks,” p. 73-84.
Paul D. Brister and Nina A. Kollars (2011), “Pass Em’ Right: Assessing the Threat of WMD Terrorism from America’s Christian Patriots.” *Perspectives on Terrorism*, 5(2), 50-68. (***BB***)

TUES. JANUARY 26

Required Readings

Textbook 1.1: Brian Jenkins, “The New Age of Terrorism,” p. 29-36
Textbook 1.2: Bruce Hoffman, “CBRN Terrorism Post-9/11,” p. 39-54
SKIM: Bipartisan Report – Jihadist Terrorism Threat Assessment, Sept. 2013 (***BB***)
World at Risk, “Executive Summary.”

Questions for Class Discussions:

- Why have some terrorist groups shown an interest in WMD, while many others have not?
- Of the four categories of WMD, which do you think is the most attractive to a terrorist group, and why?
- Understanding the threat of WMD requires information on at least three dimensions: intentions, capabilities, and enabling environment. Within each of these, what kinds of potential change in the future could significantly alter the perceived threat of a WMD attack against the U.S.?

BLOCK 2: CHEMICAL WEAPONS

Learning Objectives

The lectures, readings and discussions in Block 2 will help students develop an understanding of the scientific and technical aspects of chemical weapons, and an appreciation for the current domestic and global threats associated with these weapons, especially why some states and violent non-state actors appear interested in acquiring chemical weapons despite prohibitions against their use.

THURS. JANUARY 28

Required Readings

Textbook 2.1: NA & DHS Fact Sheet, “Chemical Warfare Agents,” p. 91-97

Textbook 2.1: Jonathan Tucker, “Chemical Terrorism,” p. 98-111

SKIM: Report on Chemical Incident Screening Database **(*BB*)**

TUES. FEBRUARY 2

Required Readings

Neal A. Clinehens. “Aum Shinrikyo and Weapons of Mass Destruction: A Case Study.” **(*BB*)**

Textbook 4.5: Robyn Pangi, “Consequence Management in the 1995 Sarin Attacks on the Japanese Subway System,” p. 657-686

THURS. FEBRUARY 4

Required Readings

Textbook 2.5: Robert Jones, Brandon Wills, and Christopher Kang, “Chlorine Gas,” p. 291-300

Adam Dolnik (2008), “13 Years since Tokyo: Re-Visiting the Superterrorism Debate.” *Perspectives on Terrorism*, 2(2), 3-11. **(*BB*)**

Chemical Weapons Quiz (last half of class)

Questions for Class Discussion:

- Why have states developed and used chemical weapons?
- Under what conditions might some states establish new (or renew old) chemical weapons programs?
- Why would a terrorist group use chemical weapons?
- How might a terrorist group acquire chemical weapons?
- What do we need to know about effectively responding to a chemical terrorist attack?

BLOCK 3: BIOLOGICAL WEAPONS

Learning Objectives

The lectures, readings and discussions in Block 3 will help students develop an understanding of the scientific and technical aspects of biological weapons; the history of the use of these weapons by states and non-state actors; the current domestic and global threats associated with these weapons, especially why some states and violent non-state actors appear interested in acquiring biological weapons despite prohibitions against their use; and the unique challenges faced by states in responding to this particular form of security threat.

TUES. FEBRUARY 9

Required Readings

Textbook 2.2: NA & DHS Fact Sheet, “Human Pathogens, Biotoxins and Agricultural Threats,” p. 113-122

Textbook 2.2: James W. Martin, George W. Christopher, and Edward M. Eitzen, “History of Biological Weapons”, p. 123-147.

SKIM: Database of Biological Incidents (***BB***)

THURS. FEBRUARY 11

Required Readings

Textbook 3.2: John McNabb, “Chemical and Biological Threats against Public Water Systems,” p. 338-364.

World at Risk, pages 1-42.

FEBRUARY 16: MONDAY CLASS SCHEDULE

THURS. FEBRUARY 18

Required Readings

Textbook 3.2: Mark Wheelis, Rocco Casagrande, and Lawrence V. Madden, “Biological Attack on Agriculture,” p. 365-378.

Biological Weapons Quiz (last half of class)

Questions for Class Discussions:

- In what ways do biological weapons differ from chemical weapons?
 - Do these differences matter in terms of how states (or terrorists) view their potential usefulness?
 - What are some fundamental reasons why most terrorists have not shown a significant interest in biological weapons?
-

BLOCK 4: RADIOLOGICAL WEAPONS

Learning Objectives

The lectures, readings and discussions in Block 4 will help students develop an understanding of the scientific and technical aspects of radiological weapons, as well as the prospects for attacking a nuclear power plant as a way of releasing high amounts of radiological material over a populated area. The lesson also examines the current domestic and global threats associated with these weapons, especially why some states and violent non-state actors appear interested in acquiring radiological weapons, despite the fact that there are no historical examples of their successful use; and the unique challenges faced by states in responding to this particular form of security threat.

TUES. FEBRUARY 23

Required Readings

Textbook 2.3: NA & DHS Fact Sheet, “Dirty Bombs and Other Devices,” p. 179-184.

Nuclear Regulatory Commission, “Uranium Enrichment,” <http://www.nrc.gov/materials/fuel-cycle-fac/ur-enrichment.html>.

Textbook 2.3: Charles D. Ferguson and Michelle M Smith, “Assessing Radiological Weapons,” p. 185-199.

SKIM: Database of Radiological and Nuclear Incidents (***BB***)

THURS. FEBRUARY 25

Required Readings

Textbook 2.5: Jeffrey M. Bale, “The North Caucasus Conflict and the Potential for Radiological Terrorism,” p. 270-290.

TUES. MARCH 1

Required Readings

Textbook 3.3: Gavin Cameron, “Nuclear Terrorism: Reactors and Radiological Attacks After September 11,” p. 380-398.

Radiological Weapons Quiz (last half of class)

Questions for Class Discussions:

- In what ways are radiological weapons similar to chemical weapons?
- In what ways do radiological weapons differ from biological weapons?
- Do these differences matter in terms of how states (or terrorists) view their potential usefulness?
- Why would a terrorist group use a radiological weapon?
- How might a terrorist group acquire a radiological weapon?
- What do we need to know about effectively responding to a radiological attack?

BLOCK 5: NUCLEAR WEAPONS

Learning Objectives

The lectures, readings and discussions in Block 5 will help students develop an understanding of the scientific and technical aspects of nuclear weapons; the current domestic and global threats associated with these weapons, especially why some violent non-state actors (like al-Qaida) are actively seeking nuclear weapons or weapons programs; and the unique challenges faced by states in responding to this particular form of security threat.

THURS. MARCH 3

Required Readings

Textbook 2.4: NA & DHS Fact Sheet, “Nuclear Weapons,” p. 201-208.

Textbook 2.4: Morten Bremer Maerli, Annette Schaper and Frank Barnaby, “The Characteristics of Nuclear Terrorist Weapons,” p 209-222.

SKIM: Database of Radiological and Nuclear Incidents (***BB***)

TUES. MARCH 8

Required Readings

Textbook 2.4: Matthew Bunn and Anthony Wier, “The Seven Myths of Nuclear Terrorism,” p. 223-235.

Textbook 2.4: John Mueller, “The Atomic Terrorist?” p. 236-254

THURS. MARCH 10

Required Readings

Textbook David Albright and Corey Hinderstein, “Unraveling the A.Q. Khan and Future Proliferation Networks,” p. 256-269.

Textbook 4.5: David Albright, Paul Brannan, and Andrea Sheel Stricker, “Detecting and Disrupting Illicit Nuclear Trade After A.Q. Khan,” p. 618-635.

MARCH 14-20: SPRING RECESS

TUES. MARCH 22

Required Readings

Charles D. Ferguson and William C. Potter, “Improvised Nuclear Devices and Nuclear Terrorism” (Monterey Institute for International Studies, 2004). (***BB***)

World at Risk, pages 43-75.

Nuclear Weapons Quiz (last half of class)

Questions for Class Discussion:

- How might a terrorist group acquire a nuclear weapon? Why would they use one?
- How did AQ Khan get away for so many years with this elaborate global network of nuclear materials proliferation?

BLOCK 6: COUNTERING THE WMD THREAT

Learning Objectives

The lectures, readings and discussions in Block 6 will examine and critique various aspects of U.S. strategies for combating the threat of WMD terrorism; the intelligence challenges involved in confronting the threat of WMD terrorism, particularly the dimensions of state-based WMD proliferation, clandestine criminal networks, and the critical importance of human intelligence in denied areas; and concepts of community and national resilience.

THURS. MARCH 24

Required Readings

Textbook 3.1: Gary Ackerman, Jeffrey M. Bale, Kevin S. Moran, “Assessing the Threat to Critical Infrastructure,” p. 305-326

Recommended Readings

Edgewood Chemical Biological Center, U.S. Army Research, Development and Engineering Command (2013), “Guidelines for Mass Casualty Decontamination During HAZMAT/Weapon of Mass Destruction Incident.” **(*BB*)**

TUES. MARCH 29

Required Readings

“Radiation Detectors to Go: Mobile Radiation Detectors Deployed at International Ports”
Science Daily (Nov. 24, 2013) **(*BB*)**

Textbook 3.1: HSDB Council, “Mass Transit Security,” p. 327-336
Department of Transportation, *Emergency Response Guide* **(*BB*)**

THURS. MARCH 31

Required Readings

Textbook 4.2: Matthew C. Waxman, “Self-Defense and the Limits of WMD Intelligence,” p. 477-496
WMD Commission Report, “An Intelligence Community Primer,” **(*BB*)**

TUES. APRIL 5

Required Readings

Textbook 4.1: Mary Beth Nikitin, Paul Kerr, Steven Hildreth, “Proliferation Control Regimes: Background and Status,” p. 418-451
Elizabeth Zolotukhina, “Nuclear Materials Smuggling in Moldova: A Watershed Moment?” **(*BB*)**

THUR. APRIL 7

Required Readings

Textbook 4.4: Crystal Franco and Nidhi Bouri, “Environmental Decontamination Efforts Following a Large-Scale Bioterrorism Attack,” p. 562-578
Textbook 4.4: Lea Ann Fracasso, “Developing Immunity,” p. 537-561

TUES. APRIL 12

Required Readings

Textbook 4.3: Ashton B. Carter, Michael M. May and William J. Perry, “The Day After: Action Following a Nuclear Blast in a U.S. City,” p. 507-517

Textbook 4.3: Ronald W. Perry and Michael K. Lindell, “Understanding Citizen Response to Disasters with Implications for Terrorism,” p. 518-535.

Questions for Class Discussions:

- What is your assessment of how effectively the U.S. is confronting the threat of chemical, biological, radiological or nuclear weapons?
- What tools are necessary for effectively countering WMD proliferation?
- What should the U.S. do that is not already being done to constrain WMD proliferation?
- Which of the major treaties—the Nuclear Non-Proliferation Treaty, the Biological and Toxin Weapons Convention, and the Chemical Weapons Convention—do you think has been the least effective, and why?
- What are 2-3 things that would help the international community become more effective in dealing with WMD proliferation?
- Are you confident in the security of your local water system or other public utilities?
- What should we be doing to help improve the security at public transportation? Are there new technologies we should be investing in?
- What U.S. organizations are most heavily involved in gathering and analyzing intelligence for a counter-WMD effort?
- How can the U.S. improve international intelligence cooperation's?
- What can be done to improve intelligence collaboration between federal, state and local agencies?

BLOCK 7: ASSESSING THE FUTURE WMD THREAT

Learning Objectives

The lectures, readings and discussions in Block 7 are meant to help develop a student's ability to articulate an informed opinion about emerging WMD trends and the potential threat of a WMD attack against the U.S.

THURS. APRIL 14

Required Readings

U.S. House of Representatives, Committee on Homeland Security, "WMD Terrorism: Assessing the Continued Homeland Threat" (Nov. 12, 2012)

<https://homeland.house.gov/hearing/subcommittee-hearing-wmd-terrorism-assessing-continued-homeland-threat/>.

TUES. APRIL 19

Required Readings

Textbook 5.2: Joshua Sinai and James Forest, "Threat Convergence: A Framework for Analyzing the Potential for WMD Terrorism," p. 725-738.

THURS. APR 21

Required Readings

Textbook 5.4: Adam Dolnik and James J.F. Forest, "Conclusion," p. 753-765

ASSIGNMENT

Your final paper is due Friday, April 22, 2016, to TurnItIn.com by 11:59PM.

Questions for Class Discussion:

- Why are there so many smart, talented people hard at work around the world trying to develop new kinds of WMD? Isn't there enough destructive power in the world already?
- What do you think is the most important concern in terms of the WMD threat to critical infrastructure?
- Some observers feel it is only a matter of time until we see a WMD terrorist attack somewhere in the world. Where do you think we will see the first major WMD terrorist attack, and why?
- Other observers, like John Mueller, argue that the WMD terrorist threat is mostly just hype, and causes us to waste lots of resources on something that is very unlikely to happen in our lifetime. What do you think?

BLOCK 8: COUNTERTERRORISM PROJECT

Learning Objectives

We will end the semester with a counterterrorism project that will allow students to apply all the skills they have learned throughout the semester. The class will simulate a fictional intelligence crisis relating to weapons of mass destruction and terrorism.

THURS. APRIL 26

Students will be divided into groups and given fictional intelligence reports on a fictional but realistic intelligence crisis. Students will learn how professionals in the intelligence community interpret this information to inform decisionmakers about plausible options for national security policy. *More information will be given in class.*

TUES. APRIL 28

Students will present their options to policymakers in an intelligence briefing styled presentation. This is an opportunity for students to formally simulate presenting to influential individuals with large policy agendas and responsibilities, but who also have very finite amounts of time. The team that presents the best briefing will be earn extra credit for the course.

TBD: MAY 2–9: FINAL EXAMS

List of Acronyms

<p>AFRICOM U.S. Africa Command ASM Air-to-Surface Missiles BS&S Biosecurity and Biosafety BTRP Biological Threat Reduction Program CBR Cooperative Biological Research CDC Centers for Disease Control and Prevention CTR Cooperative Threat Reduction CWC Chemical Weapons Convention CWD Chemical Weapons Destruction DASD/ISP Deputy Assistant Secretary for Defense for International Security Policy DMC Defense and Military Contacts Program DOD Department of Defense DOD CTR Department of Defense Cooperative Threat Reduction DOE Department of Energy DPRK Democratic People’s Republic of Korea DTRA Defense Threat Reduction Agency EDP Especially Dangerous Pathogens EPA Environmental Protection Agency EU European Union FMSF Fissile Material Storage Facility FSU Former Soviet Union FTE Full-Time Equivalent G8 Group of Eight G8 GP G8 Global Partnership GAO Government Accountability Office GICNT Global Initiative to Combat Nuclear Terrorism GP Global Partnership GSE Global Security Engagement HEU Highly Enriched Uranium HHS Department of Health and Human Services HSC Homeland Security Council IED Improvised Explosive Device IAEA International Atomic Energy Agency ICBM Intercontinental Ballistic Missiles ICP International Counterproliferation JVE Joint Verification Experiment LEU Low-Enriched Uranium MPC&A Material Protection, Control and Accounting NAS National Academy of Sciences</p>	<p>NRC National Research Council NSC National Security Council NTI Nuclear Threat Initiative NWSS Nuclear Weapons Storage Security Program NWTS Nuclear Weapons Transportation Security Program OMB Office of Management and Budget OPCW Organization for the Prohibition of Chemical Weapons OSAC Overseas Security Advisory Council OTA Congressional Office of Technology Assessment PART Program Assessment Rating Tool PNSR Project on National Security Reform PPI Proliferation Prevention Initiative PSI Proliferation Security Initiative RDD Radiological Dispersion Device, or Dirty Bomb RMTC Russian Methodological and Training Center SAIC Science Applications International Corporation SLBM Submarine-Launched Ballistic Missile SNA Social Network Analysis SNAE Strategic Nuclear Arms Elimination SNF Spent Nuclear Fuel SOAE Strategic Offensive Arms Elimination Program SSBN Strategic Nuclear-Powered Ballistic Missile Submarine SSD Safety, Security, and Dismantlement START Strategic Arms Reduction Treaty STCU Science and Technology Center in Ukraine STC Science and Technology Centers TADR Threat Agent Detection and Response TCTs Traveling Contact Teams UN United Nations UNSCR United Nations Security Council Resolution USAID United States Agency for International Development USAMRIID U.S. Army Medical Research Institute for Infectious Diseases</p>
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NCID National Center for Infectious Diseases NDF Nonproliferation and Disarmament Fund NGO Nongovernment Organization NIS Newly Independent States	USDA United States Department of Agriculture USG United States Government USSR Union of Soviet Socialist Republics WMD Weapons of Mass Destruction WMDIE Weapons of Mass Destruction Infrastructure Elimination Program
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SUPPLEMENTAL/RECOMMENDED READING LIST

- [Albert Einstein's Letters to President Franklin Delano Roosevelt](#)
- [The Atomic Bomb and World War II](#)
Primary Source Documents from the National Security Archive
- ["Doomsday Clock' Moves One Minute Away from Midnight,"](#) Bulletin of the Atomic Scientists, Jan 14, 2010
- ["The Future of Nuclear Weapons in an Interdependent World,"](#) Harald Muller, The Washington Quarterly, Spring 2008
- ["Nuclear Weapons: The Modernization Myth,"](#) Kingston Reif, Bulletin of the Atomic Scientists, Dec 8, 2009
- ["Nuclear Weapons in 21st Century US National Security,"](#) Joint Working Group of AAAS, the American Physical Society, and CSIS, December 2008
- ["Contending with the New Radioactive Patriotism,"](#) Joshua Pollack, Bulletin of Atomic Scientists, July 20, 2010
- ["Understanding the US Nuclear Weapons Policy Debate,"](#) Christopher F. Chyba and J.D. Crouch, The Washington Quarterly, July 2009
- ["Nuclear Posture Review Report: Executive Summary,"](#) US Department of Defense, April 2010
- ["US Nuclear Posture's New Priorities,"](#) Michael A. Levi, Council on Foreign Relations, Apr 6, 2010
- ["The Day After: Action Following a Nuclear Blast in a US City,"](#) Ashton B. Carter et al, The Washington Quarterly, Autumn 2007
- ["Prioritizing Investment in Nuclear Security Education,"](#) Fissile Materials Working Group, Bulletin of Atomic Scientists, Apr 1, 2010
- ["2008 World Nuclear Industry Status Report: Western Europe,"](#) Mycle Schneider, Bulletin of the Atomic Scientists, Sept 19, 2008
- ["Germany's Slowing Nuclear Phaseout,"](#) Len Ackland, Bulletin of the Atomic Scientists, Jan 22, 2010
- ["NATO's Tactical Nuclear Dilemma,"](#) Malcolm Chalmers and Simon Lunn, RUSI, March 2010
- ["NATO Allies Want US Nuclear Weapons Out of Europe,"](#) Kent Harris, Stars and Stripes, Apr 7, 2010
- ["The Strategic Arms Treaty's Promise,"](#) Stephan Sestanovich, Council on Foreign Relations, Mar 25, 2010
- ["Obama and Medvedev Sign Nuclear Arms Reduction Pact,"](#) Peter Baker, The New York Times, Apr 8, 2010
- ["In Eastern Europe, Pact with Russians Raises Old Specters,"](#) Dan Bilefsky, The New York Times, Apr 6, 2010
- ["Global Implications of the US-India Deal,"](#) George Perkovich, Daedalus, Winter 2010
- ["Symbolism Tops Substance in US-India Nuclear Agreement,"](#) Leonard S. Spector, Council on Foreign Relations, Jul 15, 2008
- ["North Korea: What Do They Want?"](#) Victor D. Cha, Statement before the Senate Foreign Relations Committee, June 11, 2009
- ["The Six-Party Talks: Outlining a True Restart,"](#) John W. Lewis and Robert Carlin, Bulletin of the Atomic Scientists, Mar 17, 2010
- ["Containing Iran?: Avoiding a Two-Dimensional Strategy in a Four-Dimensional Region,"](#) Dalia Dassa Kaye and Frederic Wehrey, The Washington Quarterly, July 2009
- ["Iran's Nuclear File: Recommendations for the Future,"](#) Abbas Maleki, Daedalus, Winter 2010

- "[Israel Ponders a Nuclear Iran](#)," Avner Cohen, Bulletin of Atomic Scientists, August 17, 2010
- "[How To Read Brazil's Stance on Iran](#)," Matias Spektor, Council on Foreign Relations, Mar 4, 2010
- "[China's Hard Choices on Iran](#)," Jon B. Alterman, CSIS, October 2009
- "[There's Still Nothing New on Iran](#)," Ivan Oelrich and Ivanka Barzashka, Bulletin of the Atomic Scientists, Mar 19, 2010
- "[Obama and Iran: Dialogue or Sanctions?](#)" Kayhan Barzegar, Belfer Center for Science and International Affairs, Mar 23, 2010
- "[Three Steps to Reducing Nuclear Terrorism](#)," Micah Zenko and Michael Levi, The Christian Science Monitor, Jan 25, 2010
- "[Detecting and Disrupting Illicit Nuclear Trade after AQ Khan](#)," David Albright et al, The Washington Quarterly, April 2010, p. 270
- "[The NPT and the Sources of Nuclear Retraint](#)," William C. Potter, Daedalus, Winter 2010
- "[The Nuclear Renaissance: An Opportunity To Enhance the Culture of Nonproliferation](#)," Anne Lauvergeon, Daedalus, Fall 2009
- "[The Reality: A Goal of a World without Nuclear Weapons is Essential](#)," Sidney Drell and James Goodby, The Washington Quarterly, Summer 2008
- "[The Illogic of Zero](#)," Bruce Tertrais, The Washington Quarterly, April 2010
- "[Taking Steps Toward a World Free of Nuclear Weapons](#)," Sam Nunn, Daedalus, Fall 2009
- "[Enabling a Nuclear Revival, and Managing its Risks](#)," Matthew Bunn and Martin B. Malin, Innovations, Fall 2009
- "[Balancing Risks: Nuclear Energy and Climate Change](#)," Robert H. Socolow and Alexander Glaser, Daedalus, Fall 2009
- "[The Climatic Consequences of Nuclear War](#)," Steven Starr, Bulletin of the Atomic Scientists, Mar 12, 2010
- "[The Growth of Nuclear Power: Drivers and Constraints](#)," Richard K. Lester and Robert Rosner, Daedalus, Fall 2009
- "[The Reality of France's Aggressive Nuclear Power Push](#)," Mycle Schneider, Bulletin of Atomic Scientists, June 3, 2008
- "[A Skeptic's View of Nuclear Energy](#)," Harold A. Feiveson, Daedalus, Fall 2009
- "[The Global Nuclear Safety Regime](#)," Richard A. Meserve, Daedalus, Fall 2009
- "[Advice for the Blue Ribbon Commission](#)," Robert Alvarez, Bulletin of the Atomic Scientists, Mar 24, 2010

**University of Massachusetts-Lowell
School of Criminology and Justice Studies**

CRIM 3480: Advanced Seminar on Weapons of Mass Destruction and Terrorism

Spring 2016

Tues/Thurs 12:30pm-1:45pm

WMD Threat Scenario

April 22, 2016

The major writing assignment of this course requires students to think like the leader of a fictional terrorist/insurgent group, who wants to acquire and use a weapon of mass destruction. You are responsible for creating a profile of a *fictionalized* terrorist group and an attack plan involving a weapon of mass destruction (WMD).

When referencing materials for your paper, you must use *properly cited* scholarly literature. Government sources are also highly encouraged. **DO NOT** use unreliable sources, such as Wikipedia.com or Ask.com. If you are unsure of the appropriateness of a source, please e-mail me, as I'd be happy to assist. Also, refer to the handout distributed on the first day of course.

The final paper is due Friday, April 22, 2016 to TurnItIn.com. There are periodic deadlines assigned throughout the semester to make sure you are making adequate progress.

Each part of the project should address the following questions at the very least. More details are greatly encouraged.

PART I (5%): The situation profile must identify location, system, and capabilities.

1. Choose a country and weapons category (chemical, biological, radiological, or nuclear) in chosen country.
2. Describe briefly the history, current condition, and future plans (if available) of the chosen weapons category. This should include a survey of current capabilities, official postures, and targets.
3. Identify security protocols in place for protecting these weapons and any potential flaws you may find.

PART II (5%): The terrorist group profile must include:

1. why the operates in the country selected in Part I
2. a *manifesto* outlining the group's motivations and goals
3. a brief description of the group's origins and structure
4. a financial plan that identifies the organization's needs and plausible sources of funding

PART III (10%): The attack plan must identify target(s), weapon(s) and a specific date and time.

1. Choose a specific WMD (e.g., sarin gas, dirty bomb, anthrax, etc.), and describe its properties, how it works, the effects it produces, expected impact when used in an attack, and so forth.
2. Describe how you will acquire or develop this weapon

3. Describe why you would want to use this weapon, as opposed to other weapons (like high grade explosives) that may be more easily available
4. Describe the most preferred type of target that this weapon will be used to attack, and why.
5. Finally, describe how a person will successfully deploy this weapon – that is, how you can will ensure the weapon reaches its target and produces the expected effects and impact described in Part 1 of the paper.

The attack plan must also provide a solid strategic rationale for this attack, addressing such questions as: Why is the group choosing WMD over other non-WMD kinds of attacks? What do you hope to achieve by using a WMD? Why this target (or set of targets?) What do you think will be the overall response of your target(s)? How will you succeed in carrying out this kind of attack? What is most critical to your group’s success?

PART IV (5%): The government response must include:

1. how would standard government protocol prevent the attack from taking place?
2. if the attack were to take place, how would the government prevent successful execution?
3. if the attack were successful, how would the government mitigate the damage?

The government response must provide grounded, logical proposals for countering an attack of this

The overall goal of this assignment is for you to demonstrate a comprehensive appreciation for terrorists as strategic actors, particularly when it comes to decision-making about weapons of mass destruction and the strategic, operational and tactical challenges faced by all terrorist groups.

Important Dates

Selected Topic	Jan. 28
Brief Outline w/ 5 sources	Feb. 11
Detailed Outline	Mar. 8
Rough Draft	Mar. 31
Final Paper due	Apr. 22

In addition to the materials posted on the course website, there are also many excellent scholarly resources you can find online, including the Nuclear Threat Initiative (<http://www.nti.org>), the Center for Nonproliferation Studies (<http://cns.miis.edu>), the CTC Sentinel (<http://www.ctc.usma.edu/sentinel>), the Belfer Center at Harvard University (<http://belfercenter.ksg.harvard.edu>), the Center for International Security & Cooperation at Stanford University (<http://www.cisac.stanford.edu>) and the Federation of American Scientists (<http://www.fas.org>).

Literature from the leading journals in the field should also be referenced, including *Perspectives on Terrorism*, *Terrorism and Political Violence*, and *Journal of Strategic Studies*.

Submitting your paper to Turnitin.com

Before you submit your paper (in class) for this course, you will need to do the following:

1) go to the Turnitin.com Quickstart page:

http://turnitin.com/en_us/training/student-training/student-quickstart-guide

2) When requested, use the following information

Class ID: **11344567**

Enrollment Password: **Spring2016**

3) Once you are entered into the system, you will need to upload your paper into their system, and it will be checked against a database of papers to determine that the content of your paper does not match the content of other papers.

Your paper will not be graded if it was not submitted to TurnItIn.com first. Instructor feedback on papers will be available via TurnItIn.com. Grades will be posted to Blackboard.

If you have any trouble using the Turnitin.com system, please visit their Help Center at:

http://turnitin.com/en_us/support/help-center