



BIOD-609-DL2: Biodefense Strategy
Fall 2020
Online
3.0 Credits

Schar School of Policy and Government
George Mason University

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Office Hours: Virtual office hours via Blackboard Discussion Board, or by appointment via Skype, Zoom, or phone

Course Description:

The purpose of this course is to introduce students from various backgrounds to the best social science literature on issues related to biodefense and global health security. These books are too new to be considered classics but they represent the most important scholarly works in the field of biodefense. Our goal is to confront each of these works as an extended argument and then to determine their value to the field and to our understanding of biodefense issues today. Students who plan to write dissertations in biodefense or security studies will find this approach particularly useful.

Course Objectives:

1. Familiarity with the intellectual foundations of biodefense strategy as a subfield of security studies and an appreciation of how recent research builds on them
2. Knowledge of the key theories and concepts in the field of biodefense and the ability to identify their relevance to current events and policy debates
3. Ability to analyze and critique theories about the causes and consequences of natural and man-made biological threats and to apply those theories as frameworks for understanding historical and contemporary cases
4. Ability to write a literature review that captures thematic dimensions of the research in question and identifies gaps in the literature

Course Format and Process

This course is an online version of a traditional graduate seminar. That means you will not be listening or watching me lecture very much. Instead, the course structure encourages and requires you to spend a good deal of time assessing and responding critically to each reading and to one another's arguments.

This course is also "asynchronous" meaning that we will not be meeting (virtually or in person) at the same time. Instead, everyone can log in to Blackboard to listen to the lectures and submit their posts to the Discussion Board when it is convenient for them (as long as they do so by the deadlines for each assignment).

The general weekly flow of the course will be as follows:

- You will typically listen to and/or watch a brief lecture by me.
- You will read the week's assigned readings.
- You will post a Weekly Analysis Memo on the Discussion Board in response to that week's question. Your post should be at least 500 words long and be based on that week's lecture and assigned readings. All Weekly Analysis Memos will be due on midnight EST on Sundays, giving you a full week to read, digest, and respond.
- You will post twice each week to the Up for Debate Forum on the Discussion Board with your take on the implications of the readings for current events or debates. Your first will be an original comment on the topic and will be due on Thursdays at midnight EST of each week. Your second post will be a response to someone else's first post and will be due by midnight EST on Sunday. Each of these posts should be at least 250 words long.
- A document detailing the guidelines and grading for the Weekly Analysis Memos and Up For Debate assignments is available in the Assignments section of Blackboard.

Interaction

We will be able to interact several different ways this semester. First, feel free to post questions to the Question and Answer section of the Discussion Board which will serve as my virtual office hours. Do not email me questions related to the readings or lectures; instead post them to the Virtual Office Hours section so the entire class can benefit from our exchange. Second, for communications that you want to be confidential or are directly related to your literature review or another assignment that would not be relevant to the rest of the class, please email me with your question. I can respond via email or we can set up a time to talk on the phone or via Skype or Zoom. I will try to respond to all emails within 1 business day. I will not be holding in-person office hours this semester.

Class Participation

Graduate seminars traditionally require you to be prepared to discuss the readings and actively participate in discussion. Online courses are no different; we just measure participation a little bit differently.

For full participation credit students should complete each Weekly Analysis Memo and Up For Debate assignment by the deadline and contribute actively to the Up For Debate discussion each week. Participation will be evaluated in terms of timeliness, volume, and overall quality of contributions to class discussion. Posts made after the due date will only receive half credit.

Students are *not expected* to have an extensive background in biodefense. However, students *are expected* to share their thoughts and insights with the class. Those students with direct professional and related knowledge of these subjects are especially encouraged to participate actively in discussion.

The Weekly Analysis Memos will count for 30% of your grade and the Up For Debate: memos will count for 20% of your final grade.

Writing Assignments

There are three writing assignments for this course: a literature review proposal, a literature review, and an arrow diagram. All writing assignments should be uploaded to Blackboard as a Word file. The deadline is by midnight EST the day the assignment is due. The file should be labeled as Your Last Name_Your First Name_Name of Assignment. Writing assignments should be double-spaced with 12-point font, 1-inch margins, numbered pages, use the [Chicago Manual of Style](#) for footnotes, and include your name and G#.

Arrow Diagram

Arrow diagramming is a technique used to describe how the components of a theoretical argument, including the independent variable, dependent variable, intervening variable, and antecedent condition, are connected. You will describe the theoretical argument made in one book by constructing an arrow diagram for the theory, explaining what the key components of the theory are, and then evaluating the clarity and utility of the theory.

Each student will be assigned to one of six teams: Anthrax, Plague, Smallpox, Ebola, Influenza, and SARS. These team assignments will determine when you construct your arrow diagram. This assignment is not a group effort. Your team assignment is for administrative purposes only. This assignment is worth 10% of your grade.

Literature Review Proposal

A literature review proposal is due by midnight EST on **September 20**. The proposal should be 2-4 pages long (1,000 words maximum) plus a 1/2 to 1-page bibliography. Your research proposal should identify a question or puzzle in the field of biodefense or global health security that is suitable for an independent research project or dissertation. Please see the “Aims and Scope” for the journal *Health Security* on Blackboard and browse the [journal](#) for the broad parameters that your selected topic should fall into.

The research proposal should clearly identify the question or puzzle that your literature review will address. A good proposal will also consider why this question is important from both a scholarly and policy perspective (in other words, why you have chosen to study it). You should select a question or puzzle that allows you to research and write about an issue that matters to you. In selecting your topic, you are advised to consult the course readings (even if we haven’t had the relevant class yet) and the suggested readings (posted on Blackboard). When selecting a question to be addressed by your literature review, start with the questions most central to this course, the questions that led you to enroll in the course, and questions that emerge from your

observations and experiences in the fields of biodefense and global health security. Keep your topic narrow enough that you can address it given the timeline and wordcount for the literature review assignment. You are required to make an appointment with Professor Koblentz (via phone, Skype, Zoom or email) prior to submitting the proposal in order to discuss your proposed research topic. The literature review proposal is worth 10% of your grade.

Literature Review

The final assignment is a literature review that is due by midnight EST on **December 13**. The literature review should be approximately 12-16 pages long (3,000-4,000 words). The purpose of the literature review is to critically analyze the existing research that addresses the question in your research proposal. A literature review is not a compilation of book reviews. Instead it organizes the existing literature thematically or methodologically and explains where and why there are areas of agreement or disagreement regarding the topic. Ultimately, the literature review should identify a theoretical, empirical, or methodological gap in the existing literature. The literature review should conclude with a brief proposal for how you would conduct original research or analysis to fill that gap. This assignment is designed to provide you with a useful foundation for your future Capstone project or dissertation. Several resources for conducting research on biodefense and how to write a literature reviews have been placed on Blackboard to assist you with this assignment. The literature review is worth 30% of your grade.

Extra Credit

The Michael V. Hayden Center for Intelligence, Policy, and International Security at the Schar School has established a partnership with [The Cipher Brief](#), an online national security platform with a wide-ranging audience, including national security and intelligence leaders, the business community, think tanks, and academia, to publish articles by our students in the [Academic Incubator](#) section. The Cipher Brief is interested in 800-1,200-word submissions that 1) have a clear argument or statement of a problem germane to national or global security stated in the first two paragraphs; 2) have a coherent structure that flows from and supports the argument; and 3) concludes with a clear policy recommendation or call to action. I encourage you to consider transforming one (or more) of your posts written for this class into a submission to The Cipher Brief. Please see [here](#) for additional details. You will receive extra credit for submitting an article and extra extra credit if the article is published. Please contact me directly if you are interested in this opportunity. Submissions and acceptances will only receive extra credit if they occur before midnight EST on December 13.

Grading

Your final grade will be calculated as follows:

Weekly Analysis Memo	30%
Up for Debate	20%
Literature Review Proposal	10%
Literature Review	30%
Arrow Diagram	10%

The deadlines for all written assignments are strict and extensions will not be permitted in the absence of a genuine emergency or documented illness. A late assignment will be penalized a full letter grade (for example, from A to B) for every 24 hour period that it is late.

Readings

The following books are recommended for purchase from the [Mason bookstore](#) (online only) or other online booksellers. These books will NOT be on reserve at the GMU library. Some of these books are available as e-books through the GMU library. Please note that these e-books have various restrictions on how long you can access the books.

Jeanne Guillemin, *Biological Weapons: From the Invention of State-Sponsored Programs to Contemporary Bioterrorism* (New York: Columbia University Press, 2006).

Andrew Price-Smith, *Contagion and Chaos: Disease, Ecology, and National Security in the Era of Globalization* (Cambridge: MIT Press, 2008). [E-book](#)

Stefan Elbe, *Virus Alert: Security, Governmentality, and the AIDS Pandemic* (New York: Columbia University Press, 2009). [E-book](#)

Gregory D. Koblenz, *Living Weapons: Biological Warfare and International Security* (Ithaca: Cornell University Press, 2009). [E-book](#)

Jonathan B. Tucker, ed., *Innovation, Dual Use, and Security: Managing the Risks of Emerging Biological and Chemical Technologies* (Cambridge: MIT Press, 2012). [E-book](#)

Kathleen M. Vogel, *Phantom Menace or Looming Danger? A New Framework for Assessing Bioweapons Threats* (Baltimore: Johns Hopkins Press, 2012).

Kendall Hoyt, *Long Shot: Vaccines in National Defense* (Cambridge: Harvard University Press, 2012). [E-book](#)

Frank L. Smith, III, *American Biodefense: How Dangerous Ideas about Biological Weapons Shape National Security* (Ithaca: Cornell University Press, 2014). [E-book](#)

Sara E. Davies, Adam Kamradt-Scott, and Simon Rushton, *Disease Diplomacy: International Norms and Global Health Security* (Baltimore: Johns Hopkins University Press, 2015). [E-book](#)

Sonia Ben Ouargham-Gormley, *Barriers to Bioweapons: The Challenge of Expertise and Organization for Weapons Development* (Ithaca: Cornell University Press, 2014). [E-book](#)

Aside from the books recommended for purchase, all course materials (unless indicated otherwise), will be available on the Blackboard site. Given the dynamic nature of this subject, additional readings may be assigned during the semester.

A Note on Work Load

The reading load for this course is heavy. I appreciate that many students work demanding jobs and that it may be difficult to complete all of the reading for each week. The goal for the weekly workload for the course is 8 to 10 hours, with about 75% of your time devoted to reading and 25% of your time devoted to writing. That means you should plan to be reading somewhere between 6 and 7.5 hours each week.

I certainly encourage students to read as much of each book as they can (especially PhD students who will be taking comprehensive exams). However, this is also a good chance for

students to hone their “strategic reading skills.” Not every part of every book (even classics) is equally critical to read. Those of us who read for a living develop strategies for getting the most from each work in an efficient manner. Typically this means starting with the introduction and theory chapters, investigating the data and methods being used, getting a sense of key results from cases or analyses, and then looking for the takeaway conclusions and implications. If you are new to the field this will be more difficult. I give you permission, though, to practice. As long as you are able to provide high quality responses to the weekly questions and contribute to the preparation of your team’s book reviews, I won’t ask you how many pages of the book you read!

Blackboard

Activities and assignments in this course will regularly use the Blackboard learning system, available at <https://mymason.gmu.edu>. Students are required to have regular, reliable access to a computer with an updated operating system (recommended: Windows 10 or Mac OSX 10.13 or higher) and a stable broadband Internet connection (cable modem, DSL, satellite broadband, etc., with a consistent 1.5 Mbps [megabits per second] download speed or higher. Please make sure to update your computer and prepare yourself to begin using the online format BEFORE the first day of class. Check [the ITS Support Center](#) website. Navigate to [the Student Support page](#) for help and information about Blackboard. In the menu bar to the left you will find all the tools you need to become familiar with for this course. Take time to learn each tool. Make sure you run a system check a few days before class. Become familiar with the attributes of Blackboard and online learning.

To login in to the course:

1. Go to <http://mymason.gmu.edu>.
2. Login using your NETID and password.
3. Click on the ‘Courses’ tab.
4. Click on BIOD-609-002 (Fall 2020)

Technical Help

If you have difficulty with accessing Blackboard, please contact the [ITS Support Center](#) at 703.993.8870 or support@gmu.edu

If you have trouble with using the features in Blackboard, email courses@gmu.edu

University Policies & Information

Academic Integrity

Students must be responsible for their own work, and students and faculty must take on the responsibility of dealing explicitly with violations. The tenet must be a foundation of our

university culture. [See <http://oai.gmu.edu/>].

Honor Code

Students must adhere to the guidelines of the George Mason University Honor Code [See <http://oai.gmu.edu/the-mason-honor-code-2/>].

Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

MasonLive/Email

Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account. [See <https://masonlivelogin.gmu.edu/login>].

Patriot Pass

Once you sign up for your Patriot Pass, your passwords will be synchronized, and you will use your Patriot Pass username and password to log in to the following systems: Blackboard, University Libraries, MasonLive, myMason, Patriot Web, Virtual Computing Lab, and WEMS. [See <https://password.gmu.edu>].

Responsible Use of Computing

Students must follow the university policy for Responsible Use of Computing. [See <http://universitypolicy.gmu.edu/university-policies/computing/>].

Students with Disabilities

Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit <http://ds.gmu.edu/> for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with me. Disability Services is located in Student Union Building I (SUB I), Suite 2500. Email:ods@gmu.edu | Phone: (703) 993-2474

University Libraries

University Libraries provides resources for distance students. [See <http://library.gmu.edu/distance>].

Writing Center

The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing. [See <http://writingcenter.gmu.edu>]. You can now sign up for an Online Writing Lab (OWL) session just like you sign up for a face-to-face session in the Writing Center, which means YOU set the date and time of the appointment! Learn more about the [Online Writing Lab \(OWL\)](#).

Counseling and Psychological Services

The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See <http://caps.gmu.edu>].

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act of 1974 (FERPA), also known as the "Buckley Amendment," is a federal law that gives protection to student educational records and provides students with certain rights. [See <http://registrar.gmu.edu/privacy>].

Other Considerations

If there are any issues related to religious holidays, please inform the instructor during the first week of class. [See <http://ulife.gmu.edu/calendar/religious-holiday-calendar/>]

SYLLABUS

Week	Topic	Readings and Lectures	Assignments
1 (8/24-8/30)	Introduction	<p><i>Readings</i></p> <p>Gregory D. Koblenz, “Biological Weapons and Bioterrorism,” in Simon Rushton and Jeremy Youde, eds., <i>The Routledge Handbook of Global Health Security</i> (Oxford: Routledge, 2014), pp. 118-129.</p> <p>Gregory D. Koblenz, “From Biodefense to Biosecurity,” <i>International Affairs</i>, Vol. 88, No. 1 (2012), pp. 131-148.</p> <p>White House, <i>National Biodefense Strategy</i> (2018), pp. 1-8 (required; rest is optional).</p> <p><i>Lectures</i></p> <p>Quick Start Video: Syllabus & Quick Start Video: Blackboard</p> <p>Week 1 Video Briefing</p> <p>Bonus Video: Zombies and Coronavirus: Planning for the Next Big Outbreak at Comic-Con@Home</p>	<p>Post an introduction of yourself to the Introduction section of the Discussion Board by 8/27; please respond to at least one other person’s post by 8/30</p>
2 (8/31-9/6)	History of Biological Weapons	<p><i>Readings</i></p> <p>Jeanne Guillemin, <i>Biological Weapons: From the Invention of State-Sponsored Programs to Contemporary Bioterrorism</i> (New York: Columbia University Press, 2006).</p> <p><i>Lecture</i></p> <p>Week 2 Video Briefing</p>	<p>Week 2 Weekly Analysis Memo (Due 9/6)</p> <p>Week 2 Up For Debate (1st due 9/3; response due 9/6)</p>
3 (9/7-9/13)	Security Implications of Biological	<p><i>Readings</i></p> <p>Gregory D. Koblenz, <i>Living Weapons: Biological Warfare and</i></p>	<p>Week 3 Weekly Analysis Memo (Due 9/13)</p>

	Weapons	<i>International Security</i> (Ithaca: Cornell University Press, 2009). <i>Lecture</i> Week 3 Video Briefing	Week 3 Up For Debate (1st due 9/10; response due 9/13)
4 (9/14-9/20)	Biodefense Strategy Roundtable	<i>Readings</i> Gregory D. Koblenz, "Biosecurity Reconsidered: Calibrating Biological Threats and Responses," <i>International Security</i> , Vol. 34, No. 4 (Spring 2010), pp. 96-132. Gregory D. Koblenz, "Regime Security: A New Theory for Understanding the Proliferation of Chemical and Biological Weapons," <i>Contemporary Security Policy</i> , Vol. 34, No. 3 (December 2013), pp. 501-525. <i>Lecture</i> Week 4 Video Briefing	Literature Review Proposal Due by midnight EST on Sunday, 9/20 Week 4 Weekly Analysis Memo (EXTRA CREDIT: Due 9/20) Week 4 Up For Debate (EXTRA CREDIT: 1st due 9/17; response due 9/20)
5 (9/21-9/27)	Health and Security	<i>Readings</i> Andrew Price-Smith, <i>Contagion and Chaos: Disease, Ecology, and National Security in the Era of Globalization</i> (Cambridge: MIT Press, 2008). <i>Lecture</i> Week 5 Video Briefing	Week 5 Weekly Analysis Memo (Due 9/27) Week 5 Up For Debate (1st due 9/24; response due 9/27)
6 (9/28-10/4)	Global Health Governance	<i>Reading</i> Sara E. Davies, Adam Kamradt-Scott, and Simon Rushton, <i>Disease Diplomacy: International Norms and Global Health Security</i> (Baltimore: Johns Hopkins University Press, 2015). <i>Lecture</i> Week 6 Video Briefing	Week 6 Weekly Analysis Memo (Due 10/4) Week 6 Up For Debate (1st due 10/1; response due 10/4) Team Smallpox Arrow Diagram Due 10/4

7 (10/5-10/11)	Health and Security Revisited	<p><i>Reading</i></p> <p>Stefan Elbe, <i>Virus Alert: Security, Governmentality, and the AIDS Pandemic</i> (New York: Columbia University Press, 2009).</p> <p><i>Lecture</i></p> <p>Week 7 Video Briefing</p>	<p>Week 7 Weekly Analysis Memo (Due 10/11)</p> <p>Week 7 Up For Debate (1st due 10/8; response due 10/11)</p> <p>Team Influenza Arrow Diagram Due 10/11</p>
8 (10/12-18)	Assessing the Risk of Bioterrorism	<p><i>Readings</i></p> <p>Richard Danzig, <i>Catastrophic Bioterrorism: What is to be Done?</i> (Washington, DC: National Defense University, 2003).</p> <p>Milton Leitenberg, “The Self-Fulfilling Prophecy of Bioterrorism,” <i>The Nonproliferation Review</i>, Vol. 16, No. 1 (March 2009), pp. 95-109.</p> <p>Jessica Stern, “Dreaded Risks and the Control of Biological Weapons,” <i>International Security</i>, Vol. 27, No. 3 (Winter 2002/03), pp. 89–123.</p> <p><i>Lecture</i></p> <p>Week 8 Video Briefing</p>	<p>Week 8 Weekly Analysis Memo (Due 10/18)</p> <p>Week 8 Up For Debate (1st due 10/15; response due 10/18)</p>
9 (10/19-10/25)	Sociotechnical Analysis of Biological Weapons	<p><i>Readings</i></p> <p>Kathleen M. Vogel, <i>Phantom Menace or Looming Danger? A New Framework for Assessing Bioweapons Threats</i> (Baltimore: Johns Hopkins Press, 2012).</p> <p>Independent Advisory Group on Public Health Implications of Synthetic Biology Technology Related to Smallpox, <i>Report to the Director-General of the WHO</i> (Geneva: WHO, 2015), pp. 17-24.</p>	<p>Week 9 Weekly Analysis Memo (Due 10/25)</p> <p>Week 9 Up For Debate (1st due 10/22; response due 10/25)</p> <p>Team Anthrax Arrow Diagram Due 10/25</p>

		<p>Ryan S. Noyce, Seth Lederman, and David H. Evans, “Construction of an infectious horsepox virus vaccine from chemically synthesized DNA fragments,” <i>PLOS One</i>, January 19, 2018.</p> <p><i>Lecture</i> Week 9 Video Briefing</p>	
10 (10/26-11/1)	The Dual-Use Dilemma	<p><i>Readings</i></p> <p>Jonathan B. Tucker, ed., <i>Innovation, Dual Use, and Security: Managing the Risks of Emerging Biological and Chemical Technologies</i> (Cambridge: MIT Press, 2012).</p> <p>Heidi Ledford, “CRISPR, the Disruptor,” <i>Nature</i> Vol. 522 (4 June 2015): 20-24.</p> <p><i>Lecture</i> Week 10 Video Briefing</p>	<p>Week 10 Weekly Analysis Memo (Due 11/1)</p> <p>Week 10 Up For Debate (1st due 10/29; response due 11/1)</p>
11 (11/2-11/8)	Medical Countermeasures	<p><i>Reading</i></p> <p>Kendall Hoyt, <i>Long Shot: Vaccines in National Defense</i> (Cambridge: Harvard University Press, 2012).</p> <p>Department of Health and Human Services, “Trump Administration Announces Framework and Leadership for 'Operation Warp Speed',” May 15, 2020.</p> <p>Department of Health and Human Services, “Explaining Operation Warp Speed,” June 16, 2020.</p> <p><i>Lecture</i> Week 11 Video Briefing</p>	<p>Week 11 Weekly Analysis Memo (Due 11/18)</p> <p>Week 11 Up For Debate (1st due 11/5; response due 11/8)</p> <p>Team Plague Arrow Diagram Due 11/8</p>
12 (11/9-11/15)	Evolution of U.S. Biodefense	<p><i>Reading</i></p>	<p>Week 12 Weekly Analysis Memo (Due</p>

	Strategy	<p>Frank L. Smith, III, <i>American Biodefense: How Dangerous Ideas about Biological Weapons Shape National Security</i> (Ithaca: Cornell University Press, 2014).</p> <p><i>Lecture</i> Week 12 Video Briefing</p> <p>Extra Credit Video: 1953 Navy biodefense training video Bonus Video: Dr. Robert Kadlec talk at the Schar School</p>	<p>11/15)</p> <p>Week 12 Up For Debate (1st due 11/12; response due 11/15)</p> <p>Extra Credit: 1953 Navy biodefense training video</p> <p>Team Ebola Arrow Diagram Due 11/15</p>
13 (11/16-11/22)	Barriers to Bioweapons	<p><i>Readings</i></p> <p>Sonia Ben Ouargham-Gormley, <i>Barriers to Bioweapons: The Challenge of Expertise and Organization for Weapons Development</i> (Ithaca: Cornell University Press, 2014).</p> <p>Melissa Hanham, “Kim Jong Un Tours Pesticide Facility Capable of Producing Biological Weapons,” 38North.org, July 9, 2015.</p> <p><i>Lecture</i> Week 13 Video Briefing</p> <p>Bonus Video: <i>The Anthrax Diaries: An Anthropology of Biological Warfare</i>, http://russian.cornell.edu/bio/cfm/home.cfm?Lang=E&AccessCode=2000300040005000&Bandwidth=small</p>	<p>Week 13 Weekly Analysis Memo (Due 11/22)</p> <p>Week 13 Up For Debate (1st due 11/19; response due 11/22)</p> <p>Team SARS Arrow Diagram Due 11/22</p>
14 (11/23-11/29)	NO CLASS (THANKSGIVING)	NO CLASS (THANKSGIVING)	NO CLASS (THANKSGIVING)
15 (11/30-12/6)	Future Biodefense Research Agenda	<p><i>Readings</i></p> <p>Gregory D. Koblentz, “Dual-Use Research as a Wicked Problem,” <i>Frontiers in Public Health</i>, Vol. 2 (August 4, 2014), pp. 1-4.</p> <p>Gregory D. Koblentz, “Quandaries</p>	<p>Future Biodefense Research Agenda (1st due 12/3; response due 12/6)</p>

		<p>in Contemporary Biodefense Research,” in Filippa Lentzos, ed., <i>Biological Threats in the 21st Century</i> (London: Imperial College Press, 2016), pp. 303-328.</p> <p><i>Lecture</i> Week 15 Video Briefing</p>	
12/13	Literature Review	None	Literature Review due on Sunday, December 13 by midnight EST