IP 573 – Fall 2006
Chem-Bio Weapons Survey

Instructor:

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Office Hours: Tuesdays (Usually all day, please email or call before arriving, or by appointment)

CONTACT INFORMATION/OFFICE LOCATION/PHONE WILL CHANGE DURING THE COURSE OF THE SEMESTER; PLEASE WATCH FOR UPDATES.

Classes: Monday/Wednesday, 2:00 pm – 4:00 pm in B-104

Be late at your own peril; late students will be immediately quizzed about that day's readings.

Tuesday Sessions:

Since IP 573 is a large class with a lot of materiel to cover, you may have extra questions, wish to discuss your ideas, or just bounce ideas off your peers and the instructor. The instructor wants to hear your thoughts on the class and explore, in greater depth, certain CBW issues that are tangential to the primary focus of the class. Therefore, Dr. Hooper will be holding rotating, free-wheeling, free-form "Drop-in" seminars at either breakfast, lunch or dinner (on an alternating basis) each Tuesday. Time and location will be announced on Mondays and on the course conference. ATTENDANCE IS VOLUNTARY AND WILL NOT IMPACT YOUR GRADE IN ANY WAY.

Course Description:

This class examines two related weapons systems and explores their history, strategic context, and future, including weapons control and potential proliferation issues. The course will be a hybrid of lecture and seminar-style discussions, emphasizing mastery of concepts, research methods and analytical pitfalls rather than facts. Problem solving, class participation, presentations, your research paper and the insights you bring to class will count highly toward your final grade.

Course Objectives:

The primary aim of this course is to develop both knowledge and application of knowledge (skills) in the area of Chemical and Biological Weaponry. By the end of the course, students will have a obtained a thorough conceptual background of CBW, including issues concerning the development of CBW as a policy issue and current policy debates surrounding CBW. Students will be better equipped to serve as "bridge" analysts for CBW, bringing salient aspects of complex scientific or public health issues to policymakers. The students will end the course with a broader appreciation of the strategic role of disease, CBW defense, the future of CBW and these weapons' linkage to other strategic weapons systems.

Course Expectations:

1) Doing the readings is essential – material covered in class will often merely reference the readings on the assumption that these have been completed. If you do not do the readings, you will shortchange yourself, as you have an opportunity with this course to cover some fascinating material and, secondly, you may quickly find that you are far behind and unable to participate in group and individual projects. I do not expect everyone to understand all the readings the first time they look at them – much of the material will be new to most people. Persevere. And if you don't do your reading, please don't show up.
2) It is a good idea to take notes during class – some of what we say isn't in the readings or on the slides. However, it is more important that you understand the material.
3) Knowledge is information with MEANING. The course is interactive – feedback between sender and receiver is vital for true communication to occur. Class participation will thus affect your grade. I encourage you all to question us and engage us intellectually. No matter whether you are a non-native English speaker or have a timid personality, feel free to speak up – we will never disparage an enquiring mind.
4) From your assignments (whether they are done in groups or on your own) we are seeking to evaluate what you have learnt. Therefore, I suggest that you put a lot of thought into analyzing the task – what it means, what you have to do. Then collect the relevant information, thus exercising your research skills. Only then should you complete your analysis and lastly work on your presentation.
5) Things I will not accept: disrespect of your classmates by being uncooperative, causing unnecessary disruption, being late for class, or not paying attention during class.

Grading:

1) Grading will be done on the basis of percentages, which will then be converted into symbols.
2) Your grade will consist of:
    a. Topic selection and rough draft of paper (10% of your grade)
    b. Group presentation on BW/CW (topics assigned by instructor. (30% of your grade)
    c. General Class Participation (10% of your grade)
    d. Problem Solving—Challenge Questions/scenarios (10% of your grade)
    e. Final Paper—20 page research paper on a CW/BW topic of your choice. *Your topic must be approved by instructor.* (40% of your grade)
    f. EXTRA CREDIT: 10 min brownbag seminar on final paper topic—outside of class during weeks 13-15.
3) Grading criteria:
    a. Evidence of understanding of course content.
    b. Breadth, depth and quality of data collected (where relevant).
    c. Lateral, creative thinking and analysis – surprise us!
    d. Quality presentation and documentation of work i.e. PROFESSIONALISM
4) TIME, ACCURACY, and DIVISION OF LABOR are crucial factors.
5) More information about assignments will be given in class.

Readings:

Required Texts:

- Haymann, DL or Chin JE. Control of Communicable Diseases Manual. American Public Health Association; 18th Edition or EARLIER VOLUMES
- Jonathan Tucker. War of Nerves: Chemical Warfare from World War I to al-Qaeda. Pantheon Books.

Optional Texts:

- Raymond Zilinskas and Richard F. Pilch. Encyclopedia of Bioterrorism Defense. Wiley.

Schedule

Additional readings will be posted on the class conference in .pdf format. Readings and class schedules may change or be modified at any time, depending upon the class pace or class interest.

Week 2: Diseases as strategic players; Intro to Infectious Disease Epidemiology.
September 11, 2006

- Teams and topics picked for group presentations.
- Thucydides, History of the Peloponnesian War, pp. 142-157.
- Victor Davis Hanson, A War Like No Other, pp. 65-88.
- Johan Giesecke, Modern Infectious Disease Epidemiology, pp.6-16.
- Paul Stolley and T. Lasky, Investigating Disease Patterns: The Science of Epidemiology, pp. 24-49,
- Other papers as assigned.

Week 3: History of Biological Warfare to World War II.
September 18, 2006

- Prepare team presentations; search/explore topics for final paper.
- Mark Wheelis, J.W. Mierzejwski, J.E.V.C Moon, O, Lepick, et al.; Readings on the History of Biological Weapons, pp.8-152.
- Janeway, Immunobiology, pp. 1.1 to 1.30 (annotations to suggest where to focus your attention.)
- Other papers as assigned

Week 4: Biology and warfare—Past and present; Intro to classes of BW.
September 25, 2006

- Zachary Friedenberg, Medicine Under Sail, pp. 34-41, 75-82.
- H. Zinsser, Rats, Lice and History; pp. 128-165
- Papers on novoviruses.
- Fenn, Elizabeth; Pox Americana
- NAS Naval Biodefenses
- Other papers as assigned

Week 5: History of Biological Warfare Post World War II
October 2, 2006

- Approval of final paper.
- Other papers as assigned.

Week 6: Biodefense: Public Health; Outbreak response.
October 9, 2006

- Papers on Hanta—US outbreak; Plague—India outbreak; Ebola—African outbreak.
- Guillemin, J. Anthrax: The Investigation of a Deadly Outbreak.
- Rosenber, CE; The Cholera Years.
- Markel, H. When Germs Travel.
- Close, WT, Ebola.
- Other papers as assigned.

Week 7: Nonproliferation: Bioweapon Control Regimes; Agriculture Threats.
October 16, 2006

- MIDTERM: Rough draft of final paper due OCT 16.
- Papers on Cuban BW allegations, North Korean BW allegations.
- Other papers as assigned.

Week 8: The Future of Bioweapons; Strategy and the Global Environment.
October 23, 2006

- Papers on smallpox chimeras/development.
- Papers on toxins/designer toxins
- Other papers as assigned.

Week 9: The Future of Bioweapons: Environment, Ethics, and Analyst Dilemmas.
October 30, 2006

- *Ryan, F. The Forgotten Plague.*
- *Dando, M., The New Biological Weapons.*
- Other papers as assigned.

Week 10: Intro to Chemical Weapons
November 6, 2006

- J. Tucker, War of Nerves; pp 1-100
- Other papers as assigned.

Week 11: History of Chemical Weapons Use; Classes of Chemical Weapons
November 13, 2006

- J. Tucker, War of Nerves; pp. 100-200.
- Other papers as assigned.

Week 12: Chemical Weapons Defense; Decontamination and Operations in a Chemically-Challenged Environment.
November 20, 2006

- J. Tucker, War of Nerves; pp. 200- complete book.
- Other papers as assigned.

Week 13: CW Control Regimes; Disarmament;
November 27, 2006

- Other papers as assigned.

Week 14: Environmental Costs; The Remnants of Modern Warfare; Warfare spillover.
December 4, 2006

- Papers on Live Vaccines, poxvirus vaccines.
- Other papers as assigned

Week 15: CBW Terrorism; Challenges of Non-State Actors; Future of Defense.
December 11, 2006

- Other papers as assigned.

Week 16: Main Topic Reviews, Closing Thoughts, Class Reviews.
December 18, 2006

Final papers due at the beginning of class on December 18, 2006.

I can understand how life can toss everyone's schedule into a tizzy. I'll be glad to work with you to help make the final part of the semester a bit less stressful with one constraint. Papers handed in late without prior notification of (and permission from) the instructor WILL NOT BE ACCEPTED.