

**FIRST-YEAR SEMINAR COURSE PROPOSAL**  
UNIVERSITY OF MARY WASHINGTON

Use this form to submit **FSEM 100 topics** courses for review **or** any **other existing course** that you wish to have designated to meet the first-year seminar requirement.

<b>COURSE NUMBER:</b>	<b>FSEM 100?</b>		
<b>COURSE TITLE:</b>	<b>CHEMISTRY AND WAR</b>		
<b>SUBMITTED BY:</b>	Janet Asper	<b>DATE:</b>	2/3/2015
<i>This course proposal has the department's approval. (Put a check in the box to the right.)</i>			<input checked="" type="checkbox"/>

**COURSE DESCRIPTION.** In the space below, provide a one- to two-sentence description of this course. The description will be entered in Banner and will also be used in other publications about the first-year seminar program (such as the "Eagle Essentials" booklet).

This seminar course explores the role chemical discoveries have played in conflict and war, and the role that conflict and war have played in driving chemical discoveries. Using basic chemical principles and books written for non-scientists, we will explore some of the compounds and chemists that have played a significant role in war. The course will start with "short stories" of select compounds, familiarizing

**RATIONALE.** Include short statement addressing how this course meets the FSEM's basic components, explaining *specifically* how it will meet the common FSEM student learning outcomes (see FSEM call above), and arguing why this course should be approved to meet the FSEM General Education requirement. Please point to specific readings, assignments, and exercises and show how they will meet the learning outcomes.

This course takes my successful Chemistry and War seminar and makes the student learning outcomes more specific and obvious to the students. They will use web searching, library databases and the CRAAP techniques to research the chemicals in the Connections video, as well as to construct their own series of connections in Week 2, as well as to provide the class with reading materials on nonlethal chemical agents, napalm and agent orange in weeks 11 and 12. There will be several short writing assignments, the reaction paper to the movie Haber, and a written book review, which will develop written arguments and allow opportunities to edit and revise in the writing process. In class discussions as well as the panel discussion will provide informal and formal opportunities for oral communication.

**SYLLABUS.** *Attach a complete course syllabus.*

**SUBMIT** this form and attached syllabus electronically as one document to Will Mackintosh ([wmackint@umw.edu](mailto:wmackint@umw.edu)) by 5 PM on September 25, 2014. All submissions **must** be in electronic form.

**FSEM 100X**  
**Chemistry and War**  
**CRN:**

Instructor: Dr. Janet A. Asper

Office: Jepson 335

Phone::540-654-1143

email:jasper@umw.edu

Student Hours:

Course Information: Time and location

Upon successful completion of an FSEM, students will

- utilize a variety of research techniques to retrieve information efficiently, evaluate retrieved information, and synthesize information effectively to support their messages or arguments;
- improve development and organization of written arguments;
- demonstrate the ability to edit and revise in the writing process;
- apply the basic theories and principles of oral communication;
- communicate effectively in a variety of settings, including public speaking and group discussion.

This seminar course explores the role chemical discoveries have played in conflict and war, and the role that conflict and war have played in driving chemical discoveries. Using basic chemical principles and books written for non-scientists, we will explore some of the compounds and chemists that have played a significant role in war. The course will start with reviewing basic chemical principles, familiarizing students with a broader approach to drawing connections between chemicals and history, then focus on two obvious areas of interest, chemical weapons and nuclear weapons.

Topic 1: Basic chemical principles that will be used in this course

Topic 2: Connections: Chemistry and war

Topic 3: Chemical weapons

Topic 4: Uranium and plutonium: Nuclear weapons

**Required textbooks/materials**

- General Chemistry : Principles, Patterns and Applications. Free .pdf online:  
<https://open.umn.edu/opentextbooks/BookDetail.aspx?bookId=69>
- Tucker, P. War of Nerves: Chemical Warfare from World War I to Al-Qaeda. 2006. Anchor Books. ISBN 1400032334 (\$18.95)
- Hager, T. The Alchemy of Air. 2008, Harmony Books. New York. ISBN 0307351793 (\$15.00)
- Zollner, T. Uranium: War, Energy and the Rock that Shaped the World. 2009. Viking Adult. ISBN 014311672X (17.00)
- On line readings as they are posted on Canvas
- A working printer, or \$20 for printing on your Eagle One card

**Grading:**

Class participation 15%

Assignments 30%

Exams 30%

Final project 25%

Letter grades will be assigned as follows

100-90% A-/A; 80-89% B-/B/B+; 70-79% C-/C/C+ 60-69% D 0-59% F

Students with a grade of C or lower at midsemester will receive a grade of U

### **Class participation**

This class is not a history class, nor is it a science class. There will be few traditional “lectures” with me talking and writing on the board and you scribbling in a notebook. We will spend time discussing and thinking through how the chemical substances, principles and scientists impacted history and how history impacted them. We will develop our body of information together. Towards this end, everyone must participate in class activities. Participation includes attending class, being prepared for the days’ activities, contributing appropriately to classroom discussion, listening to classroom discussion, paying attention to videos and outside speakers. Students will regularly be assigned to prepare questions and topics for class discussions, which will be graded as assignments.

Each student will begin the term with 50 class participation points, which have been allotted to you for attendance. Each unexcused absence will deduct 2 points. Students will be awarded 2 points for substantial, informed and appropriate contributions to discussion. Students will have 2 points deducted for inappropriate contributions. This includes violating discussion rules, impolite conduct towards another student, dominating discussion, sleeping during videos or outside speakers, etc. At the end of the semester, total points will be divided by possible points (100) and scaled to 20% for the course.

### **Assignments**

Assignments in this class will vary, and can include in class activities, short presentations, written summaries or reactions to the readings or videos, pop quizzes. Most assignments will be announced in class, so you must be in class and pay attention to what has been assigned and when it will be due. All assignments are due at the beginning of class on the due date. Late work will be penalized 20% per day.

### **Exams**

Exams will be “traditional” exams covering the chemical principles, historical facts and interconnections that we’ve discovered during the course. Dates will be announced on canvas.

### **Final project:** Book review/Panel discussion

In lieu of a final exam, groups of students will present a panel discussion on a book that is related to the material in this course, but was not read by the entire class. The panel will discuss the book that they read, and argue whether or not the book should be incorporated into next years Chemistry and War course. Panel discussions will held during our final exam time. You will work on this for the entire semester, with reading and writing assignments that will help you to prepare for the panel discussion, including an individual, written book review that is due in the middle of the semester. All of the preliminary work will be combined with the grade on your final presentation and count towards 25% of your final grade.

**Academic Dishonesty:** The honor system, as outlined in the UMW Academic Catalog, will be strictly enforced in this course. The honor pledge will be written on all graded work. Guidelines for use of outside sources, internet resources etc, will be stated on each assignment.

**ADA:** Students requiring accommodation for disabilities must discuss their needs with the Director of Disability Services (654-1266), and provide appropriate documentation. In order for me to best meet your need, I must receive documentation and discuss your needs by end of the first week of class. I will hold any information you share with me in the strictest confidence unless you give me permission to do otherwise. The University's disability policy is outlined in the UMW Academic Catalog.

**Student hours:** I set aside 5 hours per week where the only thing on my agenda is meeting with students to discuss their work. You don't need to make any appointments, just come in with your questions, problems, and things you are excited about. Student hours are usually held in my office, but if a lot of people show up, I'll move to a larger room. If your schedule conflicts with student hours, please feel free to make an appointment!!

### Tentative Schedule

Week	Topic	Reading/Video/Assignment
1	Introduction Basic Chemistry Connections	Connections "Photo finish" V List connections in video Look up basic chemical information on all chemicals in video (A)
2	Short stories of chemistry and war Using library resources	Use library resources to make your own "connections" (A)
3	Short stories of chemistry and war Avoiding plagiarism	Present/discuss your connections
4	Ammonia Speaker: Marcel Rotter German history to WWI Fritz Haber	Alchemy of Air Ch. 1-5 (R)
5	WWI Fritz Haber The writing process	Alchemy of air 9-12 (R) Haber (V) Reaction paper to movie(A)
6	WWI cont Time management	War of Nerves (R) Ch 1-3 Structures and chemical properties of chemical weapons (A)
7	Between the wars WWII Karl Bosch Deconstructing citations	Alchemy of Air Ch. (R) War of Nerves Ch 4-6
8	Fall break	Catch up on reading Book review due
9	Cold War chemical weapons Communication apprehension	War of Nerves Ch10-14
10	Gulf wars, Present day Academic advising	War of Nerves Ch 15-18 Speaker from Dahlgren
11	Non-lethal agents	Readings and assignments on canvas
12	Agent orange, napalm	Readings and assignments on canvas
13	Uranium, Manhattan Project	Uranium ch. 1-3
14	Uranium, Manhattan project	Uranium ch. 4-6
15	Uranium, manhattan project	Uranium ch. 7-9

Finals week	Panel discussions	
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