

STS 4400
NUCLEAR WEAPONS AND NUCLEAR POWER
IN GLOBAL PERSPECTIVE

Tuesday & Thursday 4:30-5:45 PM in J-130

IMPORTANT!

Full details about graded assignments (essays, presentations, extra credit) are *not* included in this condensed syllabus, but are posted in the relevant sections of the course website. They apply to you *whether or not you are aware of them*.

I. COURSE BASICS

A. Contact Information

By E-mail: bvanripe@spsu.edu or sts2400@bellsouth.net

In Person: TW 12:00-12:45 PM in J-319; or by appointment

Or leave a phone or written message in the SIS office (J-305) during business hours

Course Website: <http://spsu.view.usg.edu>

Log in using the same user ID and password you use for your SPSU email account

B. Books and Materials

- Books: Garwin & Charpak, *Megawatts and Megatons*; Cirincione, *Bomb Scare*; Allison, *Nuclear Terrorism*
- Electronic readings posted on the course website
- You *must* have regular access to a computer with an internet connection for this course

C. Course Objectives

When you finish STS 4400, you should be able to:

- How to identify technical, social, political, and moral issues raised by current advances in science and technology
- Evaluate scientific and technological issues from multiple perspectives, giving particular attention to the social, political, and economic ramifications of various scientific and technological choices and developments.
- Weigh evidence, construct arguments, evaluate arguments, and apply these skills to the debates concerning contemporary international issues in science and technology.
- Formulate and clearly express, both orally and in writing, your own positions on contemporary international issues in science and technology, supporting these positions with evidence and example as well as logically consistent and fully developed argumentation.

II. Graded Assignments

A. Class Work

Learning in this class depends heavily on *being* in class, with your eyes, ears, and mind open. Accordingly, coming to class on time and staying for the entire period earns you 5 points per class. Arriving late (> 10 minutes) or leaving early earns half-credit. **Your first three full absences will be automatically excused.**

B. Reading Quizzes

There will be twelve online, open-book/open-note quizzes covering the required reading for weeks 2-12. Each will be available for one week, ending at 4:00 PM on Tuesday of the week for which the reading is assigned. On each, you will have 20 minutes to complete 10 multiple-choice questions. You may (if you wish) take each quiz twice, with only the higher of your two scores counting. **The lowest two of your 12 quiz scores will be automatically dropped.**

C. Essays

There will be six short (roughly 750-word) essays due on alternate (even-numbered) weeks of the semester starting with Week 2. For each essay you will take a position on a (specific) controversial issue, and defend it with evidence drawn from the assigned readings. **The lowest of your six essay scores will be automatically dropped.**

Essay 1: Is the use of nuclear weapons on cities a war crime?

Essay 2: Is nuclear proliferation a threat to international security?

Essay 3: Is nuclear power a sustainable source of energy?

Essay 4: Is nuclear power, on the whole, environmentally friendly?

Essay 5: Is nuclear terrorism a *significant* threat to the United States?

Essay 6: [Pick your own controversial issue and take a position on it]

D. Briefings

There will be six short briefing papers due on alternate (odd-numbered) weeks of the semester starting with Week 3. At the beginning of the semester you will choose a country from a supplied list. For each briefing you will be asked to gather *current* data, synthesize, and present data on a specific aspect of your chosen country's nuclear capability. **The lowest of your six briefing scores will be automatically dropped.**

Choose One [same country for all]: Russia, China, France, India, Pakistan, Israel, Iran

Briefing 1: Your country's nuclear arsenal

Briefing 2: Your country's involvement (or not) in nuclear arms proliferation

Briefing 3: Your country's nuclear power industry

Briefing 4: Your country's history (if any) of nuclear accidents

Briefing 5: Your country's vulnerability (or not) to nuclear terrorism

Briefing 6: Your country's near-future plans for nuclear weapons & nuclear power

E. Group Presentation

The last two weeks of the semester will be devoted to in-class oral presentations by groups of 2-3 students apiece. Each group will, in its 15-20 minute presentation, provide a briefing on the nuclear capabilities of a particular country and take and defend a position on a nuclear-related issue relevant to that country.

Details are available in the Assignments section of the website.

F. Assignment Summary Chart

CAT.	ASSIGNMENTS	POINTS
A	30 attendance days @ 5 pts	150 pts
B	10 quizzes (out of 12) @ 10 pts	100 pts
C	5 short essays (out of 6) @ 10 pts	50 pts
D	5 country briefings (out of 6) @ 10 pts	50 pts
E	1 group presentation @ 50 points	50 pts
Total		400 PTS

III. COURSE POLICIES

A. Grading

Generally speaking, I assume that work fulfilling the basic requirements of the assignment and showing a basic grasp of the material deserves a "C." Work that fails on one count or the other gets a "D." Getting a "B" or an "A" means going *beyond* the basic requirements and demonstrating deeper understanding.

I grade with points, not letter grades. Your final grade is based *entirely* on the number of points that you earn, regardless of where they come from:

360 points or more	> 89.5%	A
320-359 points	79.5-89.4%	B
280-319 points	69.5-79.4 %	C
240-279 points	59.5-69.4%	D
239 points or less	< 59.4%	F

B. Late Assignments & Make-Up Assignments

Meeting deadlines is a basic real-world skill. Being able to meet deadlines *and* do quality work is the mark of a professional, and the standard to which you will (broadly) be held in this course.

Attendance. The first *three* times you are absent, you will be counted as present anyway. These three "free" absences are designed to cover the normal complexities of life: Colds, sick kids, undependable babysitters, car trouble, and so forth.

Quizzes. The reading quizzes go offline automatically at 3:00 on Tuesday. Waiting until Tuesday afternoon to take the quiz and then having computer trouble is *not* grounds for reopening the quiz after the deadline.

Essays and Briefings. Written assignments for this class should be turned in electronically using the "Assignments" feature on the course website. They are due *by* the start of class

on Thursday, *whether or not you come to class*. Late assignments will *not* be accepted for credit.

Requests for exceptions to these policies should be submitted in writing (email is fine), supported by written documentation, and related to unforeseeable, non-routine events beyond your control (military deployment, extended illness, serious injury, death in your immediate family).

C. Academic Dishonesty

In accordance with the official SPSU policy, I reserve the right to remove any student from [the] course for disruptive behavior or academic dishonesty. Removal will result in a grade of F, which “shall not be superseded by a voluntary withdrawal and will be included in the student’s cumulative grade point average calculated for graduation purposes.”

Plagiarism—including, but not limited to, the use of other writers’ exact or near-exact words *without* quotation marks and citations—is explicitly defined as academic dishonesty under the SPSU policy. Plagiarism will result in a grade of **a grade of zero on the assignment for the first offense and dismissal from the course for the second offense**. It is *your* responsibility to understand what plagiarism is and how to avoid it. Ignorance is *not* a legitimate defense, and will *not* excuse you from the penalties.

D. Students With Disabilities

If you believe you may need accommodations in this class, please contact the Disability Services Office, part of the ATTIC, at (678) 915-7903 so that they can be arranged.

E. University Closings

Conditions severe enough to close SPSU are rare, but they do happen. *Assignments are due on the days scheduled, however, regardless of weather conditions*. If SPSU is closed and you cannot turn in your assignment electronically, please notify me as soon as possible.

If weather makes driving conditions hazardous, but SPSU is not closed, I will make appropriate allowances in marking attendance. Monitor local weather and driving conditions, use good judgment, and let me know (email, phone message) if you can’t make it to class.

In the event that SPSU is closed for more than one class meeting in a row, we will “meet” and discuss the scheduled topics using the “Discussion Board” section of the website. Quizzes, essays, and briefings will be due as scheduled.

IV. COURSE SCHEDULE

QUIZZES ARE ALWAYS “DUE” (GO OFFLINE) ON TUESDAYS AT 4:00 PM

ESSAYS AND BRIEFINGS ARE ALWAYS DUE ON THURSDAYS AT 4:30 PM

1	Aug 25 Aug 27	Topic: Overview of the course. Nuclear physics & engineering 101. Reading: <i>Megawatts and Megatons</i> , chap. 1-2 Assignment: None
2	Sep 1 Sep 3	Topic: The Manhattan Project. Hiroshima & Nagasaki. The Soviet bomb. Reading: <i>Bomb Scare</i> , chap. 1-2 Assignment: Quiz 1, Essay 1
3	Sep 8 Sep 10	Topic: Nuclear weapons, nuclear strategy, and the Cold War Reading: <i>Megawatts and Megatons</i> , chap. 3 -4; <i>Bomb Scare</i> , chap. 3 Assignments: Quiz 2, Briefing 1
4	Sep 15 Sep 17	Topic: Nuclear arms proliferation—Who’s got The Bomb, and who wants it? Reading: <i>Bomb Scare</i> , chap. 4-5 Assignments: Quiz 3, Essay 2
5	Sep 22 Sep 24	Topic: Nuclear arms control—Is it possible? Is it desirable? Reading: <i>Megawatts and Megatons</i> , chap. 10-11; <i>Bomb Scare</i> , chap. 6-7 Assignments: Quiz 4, Briefing 2
6	Sep 29 Oct 1	Topic: Nuclear power—Past and present Reading: <i>Megawatts and Megatons</i> , chap. 5 Assignments: Quiz 5, Essay 3
7	Oct 6 Oct 8	Topic: Nuclear Power—Present and future Reading: <i>Megawatts and Megatons</i> , chap. 6 Assignments: Quiz 6, Briefing 3
	Oct 3	LAST DAY TO WITHDRAW WITH A “W”
8	Oct 13 Oct 15	Topic: Nuclear Power and the Environment Reading: <i>Megawatts and Megatons</i> , chap. 8-9 Assignments: Quiz 7, Essay 4
9	Oct 20 Oct 22	Topic: Nuclear Power, Safety, and Risk Reading: <i>Megawatts and Megatons</i> , chap. 4 & 7 Assignments: Quiz 8, Briefing 4
10	Oct 27 Oct 29	Topic: Nuclear Terrorism—Weapons Reading: <i>Nuclear Terrorism</i> , chap. 1-3 Assignments: Quiz 9, Essay 5

11	Nov 3 Nov 5	Topic: Nuclear Terrorism—Methods Reading: <i>Nuclear Terrorism</i> , chap. 4-5 Assignments: Quiz 10, Briefing 5
12	Nov 10 Nov 12	Topic: Nuclear Terrorism—Solutions Reading: <i>Nuclear Terrorism</i> , chap. 6-7 Assignments: Quiz 11, Essay 6
13	Nov 17 Nov 19	Topic: The Nuclear Future Reading: <i>M&M</i> , chap. 12; <i>Scare</i> , chap. 7-8; <i>Terrorism</i> , conclusion Assignments: Quiz 12, Briefing 6
14	Nov 22	NO CLASS—WORK ON FINAL PRESENTATIONS
15	Dec 1 Dec 3	Topic: Final Presentations Reading: None Assignments: Final paper due on the day you present
16	Dec 8 Dec 10	Topic: Final Presentations/Course Wrap-Up and Evaluations Assignments: Final paper due on the day you present