

Final paper

For this assignment, you will write an essay on a topic of your own choosing, addressing a question related to information security and/or cyber warfare. Guidelines are as follows:

- **Audience and style:** the essay should be written for an academic audience, in a style suitable for publication in an academic journal.
- **Topic:** the chosen topic must relate to the content of the course, and it must not relate primarily to deterrence, which was the topic of our midterm paper. As with all academic writing, the essay should have a clear thesis. The thesis must answer an interesting, debatable question. See below for a list of possible questions that your thesis could address.
- **Length:** aim for 8-10 pages
- **Formatting:** any reasonable formatting and spacing conventions can be used. (Double spacing or single spacing is fine.)
- **Background research:** you are expected to demonstrate that you have conducted research beyond the required readings in the course. This research should include consulting at least one scholarly source (i.e. a published book or peer-reviewed journal article).
- **Bibliography and citations:** please include citations and a bibliography in APA style. See the midterm paper assignment for details.
- **Use of class readings:** your essay should quote and cite at least two of the required readings from the class.
- **Submission:** please submit an electronic version of your paper to Moodle, in any commonly-used file format.

The paper will be graded according to the following rubric:

- **Content (50%):** Does the paper provide a clear thesis answering a debatable question? Is the thesis supported by multiple examples? Is the thesis supported by detailed explanation? Are there sufficient references to and quotations from primary sources?
- **Clarity (30%):** Is the writing clear and easy to understand? Does the paper flow in a logical progression? Is the thesis summarized clearly at the start and end of the document?
- **Correctness (20%):** Is all grammar and punctuation correct? Are the bibliography and citations correctly formatted? Is the length of the document appropriate?

Following is a list of questions that you might choose to address in your essay (of course, you are free to choose any other question related to the course, except that the topic shouldn't be primarily about deterrence):

- Is cyber terrorism a serious threat? Is the US making adequate preparations against cyber terrorism?
- In recent years, several cyber attacks supported by national governments are believed to have taken place. Have these attacks generally achieved their goals? Were the governments wise to launch the attacks?
- Despite decades of efforts on improving computer security, new security flaws in software are constantly being discovered. Why? What steps can be taken to reduce or eliminate software security problems?
- Is it true that national governments will inevitably establish secure borders around their own zones of cyberspace? Is it feasible for them to do so?
- What sort of international agreements on cyber warfare are likely to emerge in the next few years, if any? Which would be advantageous for the US? For China? For smaller nations?

- Are US preparations for cyber warfare adequate?
- To what extent is the critical infrastructure of a developed nation vulnerable to cyber attack? Should developed nations be expending more effort on defending their infrastructure from cyber attacks?
- Is the increased use of robotic weapons a good idea? What lessons from the sphere of cyber warfare can be transferred to the sphere of robotic warfare?
- Passwords are the primary authentication mechanism used by most online services, but passwords can be insecure, or difficult to remember. What are the best approaches to password management? Are there other approaches to authentication that improve on the security and ease-of-use of passwords?
- Some recent reports claim that some of the extensive cyber-espionage originating from China over the last several years against US companies and US Government entities is in fact perpetrated by a division of the Chinese military. Are these reports credible? How has the US government responded to the reports? What additional actions, if any, should the US government take?