Overview:

The writing part of this class consists of a 5 to 8 page paper related to computer science. The paper should contain a summary of background material from the literature and a critical analysis of this material by you.

This assignment is broken into four parts:

1. **The Proposal** - briefly describes the topic that you are planning to write about.
2. **The Rough Draft** - is a draft of the final paper that should have all of the components required.
3. **The Peer Evaluation** - provides an opportunity for your rough draft to be reviewed by another student so that you can improve it for the final paper.
4. **The Final Paper** - is the final result, containing all of the content that you proposed. You will use feedback that you receive both from your peer review, and from your instructor on the rough draft to complete your final paper.

Proposal:

Please submit a written proposal to the Sakai course web site that conveys the point and outline of your paper. It may change as you write, but the proposal should indicate that you have done a good deal of background reading and formulated a point. The information **required** in the proposal is as follows:

1. The main point that you will convey in your paper. This should be a paragraph that describes the issues that you will be researching, as well as your idea of how you will approach the writing of the paper.
2. An outline describing how you will convey it. Your outline should be a skeleton for the layout of the paper you plan to write. For example, if you intend to write about the use of firewalls in home computers, your outline might look as follows:
   1. Introduction - This section will define the problems that have lead to the need for firewalls in home computers. It will also provide a guide to the rest of the paper.
   2. Background - This section will provide definitions and descriptions of some of the key concepts used in the development and deployment of firewalls that are specifically designed for home computers.
   3. Firewall Functionality - This section describes what a firewall does and how it works. The section will detail the goals of a firewall, and describe some of the issues that are involved in using a firewall, such as how to determine what kinds of access are appropriate.
   4. Example Firewall Software - This section will describe some different software that is available for firewalls for home computers. It will compare these products based on criteria such as price, functionality and speed.
   5. Conclusions - This section will summarize the main points of the paper, and provide insights about lessons learned in the research in this area.
3. A bibliography of at least three references that you will use.
**Suggested Sources:**

You may use whatever valid sources you find. Note that sources like Wikipedia may be good for finding initial ideas, but they cannot be used as citations in your paper. Since Wikipedia (and other web sites like it) are compilations of information from many people and many sources, you should use the primary sources instead. Most Wikipedia pages have a list of references for the information provided. These would be a good start for finding primary sources.

Please keep in mind that for the final paper, you will be required to have at least **two** print sources in your list of references. So web pages alone are not sufficient for all of your research.

**Rough Draft:**

Before you turn in your final copy of the research paper assigned in this class, you will turn in a rough draft to make sure that you are on the right track in your writing. The draft will be worth 10% of the total grade for your research paper. It will be graded only to ensure that the required elements are there. But it will also be evaluated by one or more peers in your class based on criteria specified by the instructor. This feedback is meant to let you know what you have done well in your paper, and where it could use improvement.

**Required Elements:**

For the rough draft, you will be required to include at least the following:

- **Title** - The title should reflect the focus of your research. Because this is a rough draft, the title may change in the final paper.
- **Section Headings** - Your paper should be broken into sections to organize it and make it easy to read. These section headings will likely correspond to the main headings in the outline you provided in your proposal.
- **Content** - The rough draft should be a first attempt at a final paper. That is, it should be well-formatted, it should be grammatically correct, it should have complete ideas that are described well, and explained. As mentioned above, the content will not be graded by the instructor, except that there is some content. However, the peer review will provide feedback on this content.
- **References** - By the time you write your rough draft, you should have collected most of the references you will use for your final paper. Use a correct format for the different kinds of sources that you are using. You can find a description of good referencing here: [http://uri.libguides.com/ethics/](http://uri.libguides.com/ethics/)

The English Department at URI has a Writing Center that can be a very valuable resource for students working on papers. They provide tutors that will help you learn good writing techniques and help you put together a good research paper for this course and any other courses you are taking that have a writing element. I highly recommend that you visit the Writing Center on the fourth floor of Roosevelt Hall. The link for the URI Writing Center is here: [http://www.uri.edu/artsci/writing/center/index.shtml](http://www.uri.edu/artsci/writing/center/index.shtml)

Another useful resource that you can use for writing papers is Elements of Style by William J. Strunk, Jr. [http://www.bartleby.com/141/](http://www.bartleby.com/141/)

Please submit the rough draft to the Sakai course web site by the due date.
**Peer Evaluation:**

When the rough drafts are turned in, each student will be given another student's paper to read and review. The peer evaluation form will provide guidelines for the kind of information that is useful in this evaluation. You can find the peer evaluation form here:

http://homepage.cs.uri.edu/~cingiser/csc110/peer_eval.doc

The reviewer is also encouraged to make any marks on the paper itself to help improve it. Remember, this is an opportunity for you to help your fellow student improve his/her writing, so suggestions for improvement are much more valuable than stand-alone critical remarks about what is wrong with the paper.

Please submit the peer evaluation to the Sakai course web site by the due date. If you have marked up the paper itself, you may bring it to class to give to the author.

**Final Paper:**

After receiving feedback from your peer review, and from your instructor, you can write the final paper.

One possible format for your paper might be:

1. **Introduction** - Short description of background material, establish the point that you will make.
2. **Background** - A summary and review of background literature.
3. **Present Facts** - Present the facts that support the point that you want to make.
4. **Analysis** - Show how the facts that you have presented make the point that you have expressed.
5. **Conclusion** - Summarize your point and arguments. Discuss any further work that you think can be done.

This is only one possible structure. Your paper may have different sections, but should follow a well-organized format.

**Required Elements:**

The following elements are required for the final paper:

- **Title** - The paper should have a title that concisely describes the topic you are covering.
- **Labelled sections** - The paper should be divided into sections that naturally subdivide the paper. These sections may follow the format described above, or it may follow some other format that makes sense for the particular topic you have chosen. Breaking your paper into sections helps you to organize the paper, and it makes the paper easier to read and understand.
- **Grammatical Correctness** - The paper should not have run-on sentences, fragmented sentences, incorrect usage of verb tense, or any other grammatical errors. Most of these issues should be cleared up in the peer review process. You can also use the Writing Center as a resource for fixing these kinds of problems in your paper.
• **Well-formed paragraphs** - A rule of thumb to use when writing a technical paper is to start a new paragraph whenever you are presenting a new idea. Also, the first sentence in the paragraph should reflect what the rest of the paragraph is going to say.

• **References** - There should be a list of references used to write the paper, at the end of the paper. Number your references, and then cite them within the paper by number.

• **Print Source** - While the web can provide valuable resources for this research, it is important when you write a paper that the sources you use be persistent. For this reason, you should include at least two references in your paper that are not purely web-based - such as a magazine, newspaper, or book. It is OK if you have accessed the source electronically, as long as there is a reliable, published, print document associated with it.

Please keep in mind that the writing issues described above do not represent a complete set of things to consider when writing a good technical paper. For more on this, you can visit the Writing Center, or see your instructor.

Please submit the final paper to the Sakai course web site by the due date.

**Possible Topics:**

Below is a list of possible topics that you can study for your research paper. Some of these topics can be narrowed to more specific topics if you want. You may also choose a completely different topic. The purpose of the proposal is to give you a chance to think through your topic before you start doing major research, and to give us a chance to help you choose a good topic and a good paper format.

- intelligent agents in business applications
- evolution of software engineering practices
- database design
- object-oriented analysis and design
- web services
- effect of electronic commerce on the economy
- wireless sensor network applications
- data mining
- security issues on the web
- encryption
- evolution of operating systems functionality
- computer forensics

**Writing Guidelines:**

Here are some guidelines for writing a good research paper.

1. Have an introduction that motivates the topic. It should help answer the question for the reader "Why should we care about this topic?"
2. Your introduction should have a thesis statement that indicates the main point of the paper.
3. Your conclusion should summarize how you have made the case for the thesis statement. Do not introduce new facts in the conclusion - provide a summary of the facts presented to demonstrate that the thesis is true.
4. Do not use quotes from your sources unless you are copying an exact definition or quoting a person's opinion or words. In other cases, paraphrase the source in your own words, and cite the reference as the source of the information. You can also use quotes when the exact words are necessary to make a specific point.
5. Avoid long, rambling paragraphs. Generally a paragraph that fills a whole page can be broken into smaller ones.
6. Use commercial web sites as sources carefully. There is usually a bias toward the company's products. Use these sites for information about the products, but not for analysis. Try to find unbiased sources for analysis.
7. When citing sources that are available both in print and on the web (like a magazine or newspaper) use the print reference. You may cite the web location also.