

A topic paper is either a research paper covering a current and very specific area of research interest in computer science, or a non-research topic that is beyond what is already covered in class. Either way, the topic paper should include a clear explanation of an area of study that demonstrates that you have a solid understanding of the topic. Following are some specific guidelines.

1. **Choosing a specific topic.** To choose a specific topic, you may build upon concepts from your coursework, consult with faculty members for ideas, or develop an independent area of interest. You might want to browse current computer science journals and conference proceedings, as well as chapters for advanced topics in textbooks used for graduate courses. The library has all of the ACM and IEEE holdings as well as subscriptions to their digital libraries.
2. **Forming your topic paper advisory committee.** In order to register for CS598, you must complete the *CS598 Topic Paper Approval Form* and obtain signatures from all three members of your topic paper advisory committee. Follow these steps to form your topic paper committee:
 - Create a title and write a brief description of what you plan to cover in your topic paper. This topic paper description will typically be one to two pages. It should describe the specific topic and the aspect(s) of that topic about which you intend to write. It can be the first draft of the abstract and introduction to your paper. Be sure to include the list of papers and/or book chapters that you will be researching and studying. In general, you should include at least five or six non-Internet sources, e.g., journals, conference papers, or book chapters. You may also use up to three Internet sources.
 - Ask one of the professors in the Computer Science Department to approve your topic paper subject and to serve as your committee chair, preferably someone with an expertise or who has taught advanced courses in your topic area.
 - Once your topic paper subject is approved, you and the chair will identify two additional faculty members who may be willing to serve on your advisory committee. These faculty members must agree to be on your topic paper committee and sign your *CS 598 Topic Paper Approval Form*. Committee members must be faculty members from the Computer Science Department. Exceptions to this may be approved by the committee chair. After you have completed the *CS598 Topic Paper Approval Form*, you should contact the graduate program director to register for CS 598. In order to register for CS598 in a particular semester, you must complete the *CS598 Topic Paper Approval Form* with all required signatures by the Friday of the 4th week of the semester.
3. **Completing your topic paper.** Work with your committee chair to research the area and develop the paper. Keep in mind that your paper must demonstrate that you have a solid understanding of the topic. The paper must be written in *your own words* and anything you use that is from other sources needs to be referenced (or cited). Words taken verbatim from a source must be in quotes and cited. It is also important that you come up with your *own* examples and diagrams, although you may use a few from other sources with citations. In short, you must convince the committee that you have a good understanding of the topic about which you are writing. Unless approved by your committee chair, your topic paper should follow these formatting guidelines:
 - The final paper should be single-spaced in Times New Roman 12 pt. font with one-inch margins. Draft copies of the paper should be double-spaced to permit more convenient editing.
 - The final paper should be about 10 to 15 pages in length excluding diagrams (approximately 4000 to 6000 words). Figures and tables must appear in the body of the paper close to the point where they are first referenced, e.g., "See Fig. 1." They must be numbered in the order of reference and must have descriptive captions below the figure and above the table, e.g., "Figure 1. Microsoft Organization Chart". However, in draft versions of your paper, place the figures and tables at the end of the paper for easier editing.
 - Citations may follow either ACM or IEEE style. However, once a style is chosen, your paper must follow it consistently. Information about ACM and IEEE styles can be found at <http://www.acm.org/pubs/submissions/submission.htm> and http://www.ieee.org/portal/cms_docs/pubs/transactions/auinfo03.pdf, respectively. Some simple examples are given below:

- ACM references are listed in alphabetical order of author's last name and the year of publication when the same author has multiple references. They are cited using author's last name and year in brackets, e.g., [GINSBERG 1987]. Example of ACM references follow:

For journal articles:

ABDELBAR, A.M., AND HEDETNIEMI, S.M. 1998. Approximating MAPs for belief networks in NP-hard and other theorems. *Artificial Intelligence* 102, 21-38.

For books:

GINSBERG, M. 1987. *Readings in Nonmonotonic Reasoning*. Morgan Kaufmann, Los Altos, CA.

For articles collected in a book:

GREINER, R. 1999. Explanation-based learning. In *The Encyclopedia of Cognitive Science*, R. WILSON AND F. KEIL, Eds. MIT Press, Cambridge, MA, 301-303.

For articles in conference proceedings:

MAREK, W., AND TRUSZCZYNSKI, M. 1989. Relating autoepistemic and default logics. In *Proceedings of the 1st International Conference on Principles of Knowledge Representation and Reasoning*, Toronto, Canada, May 1989, H. BRACHMAN AND R. REITER, Eds. Morgan Kaufmann, San Mateo, CA, 276-288.

For Internet sources:

WORLD WIDE WEB CONSORTIUM. 2005. XML Path Language (XPath) 2.0 Recommendation. <http://www.w3c.org/TR/xpath20/>.

- IEEE references are numbered in the order in which they appear in the text. They are cited using numbers in brackets, e.g., [3]. Examples of IEEE references follow:

For journal articles:

[1] A.M. Abdelbar and S.M. Hedetniemi,, "Approximating MAPs for belief networks in NP-hard and other theorems," *Artificial Intelligence*, vol. 102, pp. 21-38, July 1998.

For books:

[3] M. Ginsberg, *Readings in Nonmonotonic Reasoning*. Los Altos, CA: Morgan-Kaufmann, 1987.

For articles collected in a book:

[4] R. Greiner, "Explanation-based learning," in *The Encyclopedia of Cognitive Science*, R. Wilson and F. Keil, Eds. Cambridge, MA: MIT Press, 1999, pp. 301-303.

For articles in conference proceedings

[6] W. Marek and M. Truszczyński, "Relating autoepistemic and default logics," in *Proceedings of the 1st International Conference on Principles of Knowledge Representation and Reasoning*, 1989, pp. 276-288.

For Internet sources:

[9] World Wide Web Consortium. (2005, Nov.). XML Path Language (XPath) 2.0 Recommendation. [Online]. Available: <http://www.w3c.org/TR/xpath20>.

- Your paper may include a Table of Contents. If not, the last paragraph of the introduction section (section 1) should indicate to the reader how the remainder of the paper is organized.
 - The final sections of the paper should usually consist of your conclusions.
- 4. Presenting your topic paper.** Upon completion of your topic paper, you will be required to perform an oral presentation and examination on your topic paper and area of study. The completed paper and your Graduate Portfolio must be available to your advisory committee *at least two weeks* before your scheduled exam. In general, your paper must have been reviewed by a proofreading service provider before it is submitted to the committee. It is recommended that you consult your committee members after you have obtained permission from your committee chair to schedule your exam. The exam will include a presentation on your topic and a question-and-answer session by your advisory committee. Be sure to schedule a room once the presentation date is finalized. The department office will assist you in room scheduling. Passage of the topic paper and exam is by unanimous agreement of the committee. The committee chair, in consultation with the committee members, will assign a grade for CS 598.