

**Research Project**  
**605.721.71 Design and Analysis of Algorithms**  
**Fall 2009 Johns Hopkins University**

You will select an algorithm and produce a detailed academic research paper about that algorithm this semester. Your algorithm selection must be approved by the course instructor. Your efforts must result in a product on the order of twenty text pages, organized in a manner to effectively explain your findings, supported by citations of the sources used during your investigation. Use of referred journal articles and text resources is required; Internet resources alone are insufficient for this research project. Each student will follow the ACM [style guidelines](#) for production of her/his paper (with the exception of the copyright form). The research project will begin with the generation of a one page research proposal submitted to the instructor for approval. Intermediate deadlines are established to ensure that you and the instructor maintain momentum during the semester on this research project.

Class	Research Paper Deadlines
1	Assignment start date
3	Research proposal submitted to instructor
5	Research proposal feedback from instructor
9	Research initial draft to instructor
14	Final research papers due

Your initial draft must contain full paragraph responses to elements of the research proposal. Initial figures and tables related to your research should be included in this draft. It is especially important that your research objectives are clearly and completely stated. They should be informed by the research information you have processed thus far. These research objectives must be clearly fleshed out in your research paper in text describing information drawn from research resources, and by your own critical assessment of what you are finding in the research resources you are using. Initial drafts not containing clear, consistent, and complete evidence of the research objectives will be penalized.

When preparing citations for electronic resources, follow [RefWorks](#) style. Please see the excellent resources provided by JHU Sheridan Library [Research Help](#).

At the end of your paper, please format your references as follows:

### References

1. Albrecht, A.J. Measuring application of development productivity. In *Proceedings of the IBM Application Development Symposium*, Monterey, CA, Oct. 1979, 83-92.
2. Jones, C.T. Backfiring: Converting lines of code to function points. *IEEE Computer* 28, 87-88.

When citing references in your text, please use the following style examples:

- "So how about using another sizing method, say Function Points (FPts) [1]? The standard..."
- "The first is that a common step of the FPts sizing procedure involves translating between FPts and LOC through a process called 'backfiring' [2]. Given that the original..."