Student Originated Software
Program Seminar Syllabus
Fall 2001

Our program seminar, the cornerstone of the program, integrates the four concept- and technique-building components and anchors of our study of software engineering to the cultural context in which we live and work. Writing assignments will provide opportunities for students to express their understanding of the reading and to express in their own words the science and applied work from other parts of the program. In short, the seminar is the place where we "make [human] sense" of the rest of the program.

Expectations and Requirements:
To receive credit, students must complete weekly reading and writing assignments. They must attend and participate in weekly seminars.

Students will be evaluated on the basis of their participation in discussions.   Can you ask and respond to critical questions? Can you explain ideas so that you further understanding for all? Are you respectful of other's opinions? They will also be evaluated on their ability to express ideas through their writing.

Seminar Reading Schedule:
Week 1 ***Code Complete***. Handbook of software construction practices.
Chapters 31& 32 p 755 - 791 Personal Character and Themes in Software Construction

Week 2 ***Close to the Machine.*** A personal view of the trials, tribulations and rewards of working in the software industry.

Week 3 Donald Norman. ***Things That Make Us Smart***. How do we devise software that enhances human understanding and capabilities, rather than shoehorning it?

Week 4 Fred Brooks. ***Mythical Man Month***. After 30 years, still a good source on programming in the large and why it is tough.

Week 5 Steve McConnell. ***Code Complete***
Chapt 1 software construction p 1 - 6
Chapt 2 Metaphors for a Richer Understanding of Programming p 7 - 19
Chapt 3 Problem Definition p 21 - 28
Chapt 6 sections 6.1Modularity: Cohesion and Coupling and 6.2 Information Hiding p 115 - 129
Chapt 7 High Level Design in Construction p 139 - 170
Chapt 9 The Power of Data Names p 185 - 213
Chapt 24 Reviews p 573 - 587

Week 6 Steven Levy. ***Insanely Great***. The story of passion, magic, and blind enthusiasm that created the Macintosh computer.

Week 7 Julie Bick. ***The Microsoft Edge: Insider Strategies for Building Success***. Lessons about corporate reality in a fast-paced, changing, global economy.

Week 8 Eric S. Raymond. ***Cathedral and the Bazaar.*** How the hacker culture gave birth to the open source revolution.

Week 9 Katie Hafner, Matthew Lyon. ***Where Wizards Stay Up Late.*** The story of the research and development behind the internet.

Seminar Writing Assignements:
Week 1 **Code Complete**
1) write an introduction of yourself in terms of the characteristics whether you fit that profile and how

Week 2 **Close to the Machine**
1) What would you find most difficult about working in this environment? Pick one attribute and explain how you could make it less hard on yourself.
2) What is appealing about this work environment? Pick one attribute and explain why this would a good environment for you.

Week 3 **Things That Make Us Smart**
1) Pick a shareware program and write a company memo evaluating the interface according to Norman's design principles. Make a recommendation about whether to implement or not.

Week 4 **Mythical Man Month Still need to determine which chapters to assign vs entire book.**
1) What problems described *in Mythical Man Month* are still problems today?

Week 5 **Code Complete**
1) What are the obstacles to doing code reviews?
2) Why is it hard for programmers to resist the urge to begin coding?

Week 6 **Insanely Great**
1) How do design principles from Norman apply to the Mac project?
2) How are Brook's ideas on large scale projects manifested in the Mac Project
3) What are the common characteristics of the software engineers from Insanely Great, Close to the Machine, Mythical Man Month, and Code Complete?

Week 7 **The Microsoft Edge**
1) What best practices at Microsoft would you like in a job environment and why?

Week 8 **Cathedral and the Bazaar**
1) Contrast Microsoft's comments about the risks of the open source movement with the Open Source's perspective.
http://www.microsoft.com/presspass/features/2001/may01/05-03csm.asp
2) Write about the optimism of the open source movement and how it affected the Netscape failure.

Week 9 **Where Wizards Stay Up Late**
1) Write a cover letter to this internet development group about why you would be a good engineer for this project that they are doing.
2) What additional principles of managing a large project can be gleamed from this book that were not in the previous books?
3) What important lessons were learned from the beginning groups using email?