CS-488—Senior Seminar
Syllabus
Fall '10

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Contact: Scheduled office hours (tentative): TBA

Also other times by appointment. I strongly encourage you to send questions/requests for clarifications to me via e-mail.

Text: Martin Campbell-Kelly and William Aspray. *Computer: An History of the Information Machine, 2ed.*, Westview Press, 2004. ISBN:0-8133-4264-3.

Structure: The senior seminar has two components. The first is a capstone study—a large-scale development or research project that serves as a culmination of your CS studies. This will usually include development of a substantial software system and will invariably include a written paper as well as an oral presentation covering the paper (and the system) at a colloquium at the end of the semester. You will also submit a formal proposal for your project along with a detailed plan for carrying it out and a shorter survey of the the area in which you plan to work. The survey will include an initial bibliography for your final paper, which is due two weeks before the survey itself. These will be presented to the class as a whole, the survey about a third of the way into the semester and the proposal about two-thirds of the way in. In addition, you are expected to maintain a web page on your project which will be linked into the class web. This should include a log of your progress which should be updated at least weekly.

The second component is group reading and discussion on a topic within the broad area of computer science. This semester the primary text will be a survey of the development of computers—machines and software—from mid-20$^{\text{th}}$ century to early 21$^{\text{st}}$. This will be supplemented by primary sources and papers from the historical and technical literature, some of which I will provide and some of which you will find.

While the class is scheduled to meet once a week, it is a three hour class. We will normally meet together only on Wednesdays from 2:30 until 3:50. During this time you will report on the progress of your projects, discuss problems you have encountered, present your proposals and discuss the readings. When we are presenting surveys and proposals, we may need to run somewhat longer than 4:00. This will occur at most a couple of times in the semester with plenty of warning, so it should be possible to make arrangements with whatever late afternoon commitments you have. In addition each of you will meet with your project advisor for about 1/2 hour each Monday to discuss the details of your project.

Note that this *is* a three hour class and the time commitment you need to make is at least that of a three hour class. In general, given the importance of the capstone project to your education, you should plan on focusing the largest share of your attention this semester on it.

Evaluation: Each of the deliverables listed below will receive a letter grade along with, in most cases, a written evaluation. Each deliverable will have a specific due date and the grade will be reduced 1/2 letter grade for each weekday it is late. Presentations will receive no credit if they are not ready on their due date.

As is usual in my classes, you are required to do a written self-evaluation at the end of the semester and to discuss it with me. I think all of you have done these for me before; if you haven't ask about it in class. This counts for 5% of your grade, half a letter grade. You will receive full credit as long as you make it clear that you have taken it seriously. (I have yet to find a student at Earlham who did the evaluation but did not take it seriously.)

Tentatively, I am planning to weight these components roughly as follows:

Log/web page — 5%

Discussion — 10% Split between participation in the discussions and contributions of supplementary references.

Initial bibliography — 5%

Survey (written paper) — 10%

Survey (oral presentation) — 5%

Proposal (written) — 15%

Proposal (presentation) — 5%

Final paper — 15%

Final project — 20%

(In the case of a research project these previous two will be combined.)

Final presentation — 5%

Self evaluation — 5%

Note that these weights are only for computing a letter grade for those who have completed the capstone project successfully. The criteria for success will be a component of your proposal, although these will be subject to revision (by mutual agreement) as the semester unfolds. **As the capstone project serves as our comprehensive exam, you cannot pass this seminar (and hence cannot complete the CS major) without successfully completing it.**

Tentative Schedule:
Note that you are required to attend *all* class meetings. You should come to each meeting prepared to discuss (and demo) the work you have carried out over the preceding week. The discussions are likely to continue for more than one meeting. The scheduled date is the day they will begin.

25/Aug.	First day of class.
1/Sept.	Ch 1.
8/Sept.	Ch 2.
10/Sept.	(Friday of 3rd week of classes) Initial bibliography due.
15/Sept.	Ch. 3.
24/Sept.	Survey due.
22/Sept.	Ch 4.
29/Sept.	Survey presentations.
6/Oct.	Ch 5.
13/Oct.	Ch. 6.
20/Oct.	Ch. 7.
22/Oct.	Proposal due.
27/Oct.	Proposal presentations.
3/Nov.	Ch. 8.
10/Nov.	Ch. 9.
17/Nov.	Ch. 10.
1/Dec.	Ch. 11.
8/Dec.	Final draft of paper due, project should be complete.
8/Dec.	Demo day.
Finals week	Colloquium.

Disabilities: Please let me know as early in the semester as possible if there are any adaptations or accommodations you require, if there is any emergency medical information I should know about, or if you might need special arrangements in the case that the building needs to be evacuated. I will be happy to work to accommodate any student with disabilities. The Earlham policy is:

> Any student with a documented disability (e.g., physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact Academic Support Services and the instructor at the beginning of each semester. *Accommodation arrangements must be made during the first-two weeks of the semester.*

It is important to follow this procedure.