

Syllabus

Computing Seminar - COMP 439

7:00 am Science 113

Spring 2011

Instructor: Dr. Frank McCown
Contact: 501-279-4826, HU Box 10764, fmccown@harding.edu
Home Page: <http://www.harding.edu/fmccown/classes/comp439-s11/> (Syllabus, useful links)
Office Hours: Science 208: 3 – 5 MWF, 10 – 11 & 1 – 2 TR, or by appointment
Required text: *A Gift of Fire (3rd edition)* by Sara Baase (2008) *This book is available as an e-book.

Goals of this class:

1. For students to become familiar with ethics in computing and to equip students to make wise ethical decisions in the future.
2. For students to gain experience in independent research and technical writing.
3. To provide a forum in which students practice communicating technical information to a large audience.

Grading

The final grade assigned in this class is based on the following:

1. **Attendance** - 35% This is your attendance record over four semesters (this semester and the previous three). Your attendance is required at every Friday morning seminar. Thursday afternoon seminars are not required but may substitute for missed Friday seminars. You are allowed two cuts per semester without penalty. You may not earn more than 100% attendance.

Attendance grade = Total seminars *attended* in 4 semesters / (Total student-led seminars *offered* in 4 semesters – 8)
2. **Ethics Text** - 10% You will be required to attend two different sessions where the Ethics Text is discussed. You will be required to sign a form stating how much of the text you read before class; your grade will be based on how much you read and your participation in class discussions.
3. **Paper** - 20% This is a 12-17 page term paper on the same topic as your seminar presentation. The paper is due two Mondays prior to your seminar, at midnight. See the grading sheet on the class website for grading criteria.
4. **Trial Run** - 15% This is a complete oral presentation of your seminar given to the instructor alone for critiquing. It is given three days prior to your seminar. All visuals, handouts, etc. should be prepared at this time. The only changes after this will be in delivery. Grading will be according to the accompanying sheet.
5. **Seminar** - 20% This is the final oral presentation to your peers and department faculty. Grading will be according to the accompanying sheet.

The grading scale is 90% and above = A, 80% and above = B, etc. There will be no rounding (89.9% is a B).

Class Readings

These are the assigned readings: Chapters 1, 2 (skip sections 2.4 and 2.5), and 3 for Jan 28; Chapters 4 (skip section 4.7), 5 (skip section 5.6), and 8 for Feb 4. You must complete the readings *before* we discuss them in class. Suggested reading (not required): ACM Code of Ethics and Professional Conduct (<http://www.acm.org/about/code-of-ethics>)

Seminar Topics

When choosing a topic, try to find something that interests you and will be interesting to most CS majors. Your topic should be software-related although hardware-related topics may also be acceptable. A link to a list of possible topics can be found on the class website. You may also find a good topic by (1) looking in current magazines such as Communications of the ACM, PC Magazine, Popular Science, or Technology Review; (2) visiting websites of major research labs such as web.mit.edu/research/, www.lanl.gov, www.research.ibm.com, or www.sandia.gov; (3) visiting websites that offer technical news like news.cnet.com or technews.acm.org; (4) looking in your textbooks for chapters that were not covered in class; (5) talking to your professors.

You cannot use a topic that was presented in any seminar from the previous four semesters, so you should scan the seminar schedules of the past few semesters to see what is off-limits.

You need to **choose a topic no later than 5pm on Monday, Jan 31** and get me to sign-off on it. Failure to meet this deadline will result in a 1% deduction from your final grade for each 24 hour period after the deadline.

Ideally you should create original research. This means you learn a new language or technology and use it to create something new. For example, you could write a networking program in ABC or create a dynamic website using XYZ. Or you could investigate how something works. For example, you could show how to unlock an encrypted file using a new security attack. It's also a good idea to find a research paper that someone has done and see if you can reproduce their work. Often you'll find that you have new insights into how the problem could be solved more efficiently or show weaknesses in the original work.

You may also choose a topic that investigates what others are doing or on a general CS-related topic and report on how it impacts us as computer scientists. For example, you could report on new types of phishing attacks or discuss copyright issues in regards to software.

Paper Requirements

You are to write a technical paper about the topic you have chosen. Your paper must adhere to the following requirements:

- The paper should be 12-17 pages typewritten, double spaced, single column, in 10pt Times New Roman font with 1" margins on all sides. A Word 2007 template is available on the class web page. All pages, including the title page is included in the 12-17 page requirement.
- It should include a title page listing the title, author, date, and abstract (abstract not to exceed 250 words).
- References (works cited) should be formatted using the APA format. References should be ordered alphabetically by the first author's last name or title if the author's name is not available (Word 2007 will produce the correct for you automatically if you use Word's Source Manager). You must cite *at least* 10 references.
- You may not cite Wikipedia as an authoritative source, but it may be helpful in finding good references to cite.
- All pages should be numbered (bottom-right) except the title page.
- All papers should start with an Introduction section and end with Conclusions and References sections.
- All sections should be numbered according to the Word template (e.g., 1. Introduction).
- All tables and figures should be numbered and have appropriate captions. You should make an explicit reference to every table and figure in the body of the paper.
- Use the third-person (preferred) or first-person narrative when writing. Avoid using "you" and "I".

The paper will be graded according to the criteria given on the grading sheet which is accessible on the class website.

Your paper should have both breadth and depth, meaning you should put the selected topic in context, provide a good overview of it, and provide some technical details about the topic that show you have a good understanding of it. For example, if you chose to write about web crawling, you would discuss the history of web crawling, talk about the types of web crawlers currently being used, and provide some technical details about how one would write their own web crawler. When presenting your paper in your seminar (discussed in the next section), you could demonstrate a web crawler that you have written or modified from existing source code.

In general, you should write a paper that demonstrates you have technical mastery of the subject; **if the paper you write could have been written by you your freshman year, you have not written a sufficiently technical paper.**

Please read *Technical Writing Made Easier* by Bernhard Spuida and *Clarity in Technical Reporting* by S. Katzoff before writing your paper (links to both are on the class website). These guides will give you excellent advice about technical writing.

Keep in mind that you are not writing a tutorial; you should write in a formal way. You should avoid using “you” in your paper. Instead of writing, “First, you must configure the profile,” you should write, “First, the profile must be configured.” Instead of writing, “You would be surprised to learn...,” you should write, “Many individuals are surprised to learn...”

You should submit an electronic copy of your paper to TurnItIn.com by midnight on the second Monday before your seminar. Turnitin.com will run an analysis of your paper and compare it with other online resources and papers submitted by students at other universities. If you already have used this site before, you can join the Computing Seminar using the class ID number **3700675** and the password **bison**. If you have not used this site before, just visit the website and click on New Users in the upper-right side of the screen. You will then create an account and then join the Computing Seminar class where you can submit your paper.

Presentation Requirements

You will present the major ideas from your written paper. Your seminar presentation should include a well thought-out set of slides using PowerPoint or other presentation software. You may want to include some type of demo as well. Please read *PowerPoint Presentations: The Good, the Bad and the Ugly* and *Oral Presentation Advice* (links on class website) for excellent advice on preparing for your seminar. Here’s some of my own advice:

- Speak clearly and audibly; look your audience in the eye.
- Don’t put too much text on your slides, and do not read your slides to the audience.
- You should have approximately 1 slide or less per minute.
- Use screen-shots, diagrams, and pictures liberally (a picture is worth 1000 words).
- Do not switch back and forth between your slides and websites unless absolutely necessary. It’s better to include screenshots in your slides because it’s less distracting, and if the website goes down or changes, you won’t be publicly embarrassed when you try to access it during your presentation.
- If at all possible, prepare a demo which demonstrates your topic. Make sure you practice it over and over so it goes smoothly during your presentation. You could even prepare a video of the demo if it’s quite involved or the necessary software/hardware is not available on the podium computer.
- Avoid using the whiteboard since the lighting will be dark, and it’s difficult for everyone to hear you talking when you are facing the whiteboard.

Your presentations (the trial run and final) will be graded according to the grading sheet which is available on the class website.

Students with Disabilities

It is the policy for Harding University to accommodate students with disabilities, pursuant to federal and state law. Therefore, any student with a *documented disability* condition (e.g. physical, learning, psychological, vision, hearing, etc.) who needs to arrange reasonable accommodations, must contact the instructor and the Disabilities Office at the *beginning* of each semester. (If the diagnosis of the disability occurs during the academic year, the student must self-identify with the Disabilities Director *as soon as possible* in order to get academic accommodations in place for the remainder of the semester.) The Disabilities Office is located in Room 102 of the Lee Academic Center, telephone, (501) 279-4019.

"Whatever you do... do all to the glory of God." - 1 Corinthians 10:31