

Syllabus

Computing Seminar - COMP 439

7:00 am Science 113

Spring 2017

Instructor: Dr. Frank McCown
Contact: 501-279-4826, HU Box 10764, fmccown@harding.edu
Home Page: <http://www.harding.edu/fmccown/classes/comp439-s17/> (Syllabus, useful links)
Office Hours: Science 208: 10 – 11 am and 4 – 5 pm daily, or by appointment

Required text: None – All readings will be given electronically

Student Learning Outcomes

The student will be able to:

1. Identify significant ethical issues in computing.
2. Formulate ethical standards that will characterize the student's own professional behavior.
3. Research a technical topic independently.
4. Write a technical paper that synthesizes information from numerous sources.
5. Present and explain technical information to an audience of peers and faculty.

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. Check your attendance: http://cs.harding.edu/seminar/seminar_attendance.html

Attendance grade = Total seminars *attended* in 4 semesters / (Total Friday seminars *offered* in 4 semesters – 8)
Attendance grade for Spring 2017 = Seminar attended in Fall 2015, Spr 2016, Fall 2016, Spr 2017 / (21 + ?)
2. **Ethics Readings** - 10% You are required to read and discuss some assigned articles on computing ethics and to write your own code of ethics. 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 term paper on a computing topic that you will later present. 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 topic given to the instructor alone for critiquing. The trial run must be given 8 to 3 days prior to your seminar. All visuals, handouts, etc. should be prepared at this time. Grading will be according to the seminar grading sheet.
5. **Seminar** - 20% This is the final oral presentation to your peers and department faculty. Grading will be according to the seminar grading sheet.

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

Ethics Readings

Required readings are due on the date specified. Note the writing assignment which is due the second class meeting.

Jan 20:

- ACM Code of Ethics and Professional Conduct
<https://www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct>
- Write a one page **Computer Science Code of Ethics** for our department. Bring a printed copy of your paper to class. Format: 1 inch margins, single spacing, 12pt Calibri font.
- Peter Wayner, *12 ethical dilemmas gnawing at developers today*, InfoWorld, Apr 21, 2014
<http://www.infoworld.com/article/2607452/application-development/12-ethical-dilemmas-gnawing-at-developers-today.html>
- Guide to Legal and Ethical Use of Software
<https://wustl.edu/about/compliance-policies/computers-internet-policies/legal-ethical-software-use/>
- Adam Fabio, *Killed by a Machine: The Therac-25*, Oct 26, 2015
<http://hackaday.com/2015/10/26/killed-by-a-machine-the-therac-25/>

Jan 27:

- Peter G. Neumann et al., *Inside Risks: Keys Under Doormats*, CACM, Oct 2015
<http://www.csl.sri.com/users/neumann/cacm237.pdf>
- *Robotics: Ethics of Artificial Intelligence*, Nature, May 27, 2015
<http://www.nature.com/news/robotics-ethics-of-artificial-intelligence-1.17611>
- John Arquilla, *The Ethics of Cyberwar*, July 2, 2015
<http://cacm.acm.org/blogs/blog-cacm/189028-the-ethics-of-cyberwar/fulltext>
- Nayef Al-Rodhan, *The Many Ethical Implications of Emerging Technologies*, Scientific American, March 13, 2015
<https://www.scientificamerican.com/article/the-many-ethical-implications-of-emerging-technologies/>
- D. Atkins, D. Fetters, and D. Hulse, *Digital Wallets and Whistle Blowing*, 2002
<http://seeri.etsu.edu/SECodeCases/ethicsC/DigitalWallets.htm>

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 archive to see what is off-limits.

You need to **choose a topic no later than midnight on Monday, Jan 16** to get approval. Failure to meet this deadline will result in a 1% deduction from your final grade for each 24 hour period after the deadline.

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 12-15 pages typewritten, double spaced, single column, in 10pt Times New Roman font with 1" margins on all sides. A Word template is available on the class web page. All pages, including the title page is included in the 12-15 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 IEEE format. References should be ordered in citation order (the order in which each work is cited). Word will produce the correct format and ordering for you automatically if you use built-in 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.
- The paper should be formally written; you are not writing a tutorial or a blog post.
- Use the third-person (preferred) or first-person narrative when writing. Avoid using “you” and “I”. 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...”

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 want to discuss the history of web crawling, talk about the types of web crawlers currently being used and challenges that web crawlers face, 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 you could have written the paper your freshman year, you have not written a sufficiently technical paper.** Please read *Technical Writing Made Easier* by Bernhard Spuida before writing your paper (links to both are on the class website). These guides will give you excellent advice about technical writing.

You are encouraged to use the **Writing Center** (located in the Library) to help correct grammar and other writing mistakes. A student in the Writing Center will sit down with you and read your printed-out paper and point out corrections you can make. You may enlist help from others as long as they go over the paper *with you*. You are not allowed to give your paper to someone who does the editing for you.

You must 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 **14258864** 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.

I will download your paper from Turnitin.com and print it myself. I'll grade your paper before your trial run.

Late papers will be penalized **10%** per 24 hours that it is late.

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.
- Limit the amount of text on your slides, and do not read your slides to the audience.
- 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.
- Clearly cite outside information on the slide in an abbreviated format that clearly matches the full citation in your

handout. Example: [Smith, et al. 2015] could appear in small font in the corner of your slide, and your handout lists the full citation: J. Smith, A. Black, and E. White, "How to Program a Computer," *Journal of Computing*, p. 6-7, 2015.

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

Your handout should adhere to the following rules:

- Two single-sided pages
- Include your name, presentation title, abstract, brief outline, all references from your paper
- You may include a glossary and examples if there is room
- Looks good in black and white

Your handout should be brought with you to your trial run.

Academic Integrity

Everyone is expected to hold the **highest standard** of personal conduct and **integrity**. Cheating in all its forms is inconsistent with Christian faith and practice and will result in sanctions up to and including dismissal from the class with a failing grade. Your research and writing should be performed solely by yourself. As stated earlier, you may get editing help from the Writing Center in the Library, but allowing someone to edit your paper directly is prohibited.

Assessment

Harding University, since its charter in 1924, has been strongly committed to providing the best resources and environment for the teaching-learning process. The board, administration, faculty, and staff are wholeheartedly committed to full compliance with all criteria of the Higher Learning Commission of the North Central Association of Colleges and Schools. The university values continuous, rigorous assessment at every level for its potential to improve student learning and achievement and for its centrality in fulfilling the stated mission of Harding. Thus, a comprehensive assessment program has been developed that includes both the Academic units and the Administrative and Educational Support (AES) units. Specifically, all academic units will be assessed in reference to the following Expanded Statement of Institutional Purpose: The University provides programs that enable students to acquire essential knowledge, skills, and dispositions in their academic disciplines for successful careers, advanced studies, and servant leadership. Assessment of the knowledge, skills, and dispositions of each student for the purpose of assigning a letter grade at the completion of this course will be based on the projects, homework assignments, and exams that were described previously in this syllabus.

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 205 of the Student Center, telephone, (501) 279-4019.

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