

### **Term paper requirements**

#### **Big picture:**

Each student will select a topic of interest related to software engineering and conduct research into the topic using academic resources. A required element of the research is an exploration of the ethical aspects of the chosen topic. There will be several deliverables, culminating with a term paper and an oral presentation to the class.

#### **Topic ideas:**

These ideas are presented to stimulate you and to illustrate the range of possibilities for topics. A good general resource is the Software Engineering Institute ([SEI](#)) and the [SWEBOK](#).

1. Development Paradigms
  - a. Extreme programming
  - b. Scrum
  - c. Cleanroom
  - d. Agile methods
  - e. CMM
  - f. Personal Software Process
  - g. Team Software Process
  - h. Problem Frames
  - i. ...
2. Licensure of software engineers
3. Biography and contributions of one or a group of software engineers
  - a. Gang of four
  - b. Dave Parnas
  - c. Nancy Leveson
  - d. ...
4. Safeware
5. Testing
  - a. Blackbox
  - b. Whitebox
  - c. Component
  - d. ...
6. Software reuse and refactoring
7. Quality management
  - a. Software measurement and metrics
  - b. ...
8. Cost estimation
  - a. Pick a technique
  - b. ...
9. Reverse engineering

## **Deliverables**

### **Overview**

Written deliverables will be in PDF format.

Dates will be supplied on the class website.

Term paper will be approximately 3,000 words plus references.

Term paper format will be as specified here:

<http://www.acm.org/sigs/pubs/proceed/template.html>

Oral presentation will be 5 minutes in length.

### **Deliverable #1: Proposal**

Submit a one to two page proposal of your topic including a preliminary listing of at least five references. These references must include papers and/or journal articles from the ACM and/or the IEEE Computer Society. These resources are available through the library. I will review and accept or ask for revisions.

### **Deliverable #2: Outline**

Submit an outline of your paper including at least section and sub-section names and also an updated listing of references. Supply a brief summary of each reference.

### **Deliverable #3: Draft paper**

Submit a draft version of your paper. This draft should be at least 1,500 words plus references.

### **Deliverable #4: Final paper proof**

Submit a proof of the final paper. This is your opportunity to receive my comments and suggestions on your final paper along with a tentative grade. You will then have the opportunity to change/improve the paper.

### **Deliverable #5: Final paper**

Submit the final paper.

### **Deliverable #6: Presentation and presentation materials**

Submit your presentation materials before giving your presentation.