

COSC 494/594: Human-Centric Software Engineering, Spring 2019

University of Tennessee, Knoxville

Dr. Austin Henley

Room: Min Kao 405

Time: Mon/Wed/Fri 3:35pm-4:25pm

Textbook: No textbook

Website: <http://web.eecs.utk.edu/courses/spring2019/cosc494/>

Instructor: Dr. Austin Henley

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Course Goals

The course aims to prepare students for real-world software engineering tasks. The course will consist of three main components: (1) investigating the state of the practice in software development tools, (2) investigating the state of the research in human aspects of software engineering, and (3) applying this knowledge by designing and evaluating a software development tool.

Topics

We will study a subset of the following topics:

- Developer productivity
- Code editors
- Debugging
- Program comprehension
- Version control
- Continuous integration
- Documentation
- Project management
- Code reviewing
- Collaboration & social aspects
- Software testing
- Software metrics
- Refactoring
- Program analysis
- Usability of tools

- API design
- Computing education
- End-user programming
- Visual programming languages

Presentations

Throughout the semester, students will investigate tools and papers (outside of class) that they will then individually present in class. A template for the presentations will be provided. Each presentation will be scheduled in advance and allow the student some choice in what topic they present. The presentations will last 10-15 minutes and will be graded. The number of presentations will be based on the number of students (I estimate 1 paper presentation and 2 tool presentations per student).

Participation

Much of the class time will be used for discussions on specific tools or papers. It is expected that all students contribute to the discussions (I recommend making a meaningful contribution at least every other class). Each discussion will be led by a student other than the one who presented the material. Attendance will be considered part of the participation grade. There will also be in-class activities. To prepare for these activities, some tasks may need to be completed outside of class (e.g., install and configure an IDE).

Project

To apply the topics covered in class, students will work on a project throughout the semester. The project will include designing, implementing, and evaluating a software development tool. There will also be class time to brainstorm and get feedback from the class about the projects.

Exams

There will be no exams.

Grading

- 40% participation
- 30% presentations
- 30% project

I will use UTK's standard grading scale to convert to letter grades, including plus/minus.

The instructor reserves the right to revise, alter or amend this syllabus as necessary. Students will be notified regarding any changes.