

# Computer Engineering 29

## Unix Shells and Utilities

Spring 2014  
Tuesdays  
5:10 pm – 7:00 pm

### Instructor

Instructor: Darren Atkinson  
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### Grading

Homework: 80%  
Final exam: 20%

### Course Description

Software development using the Unix operating system. Working with the file system, editors, shell scripting, Unix utilities, regular expressions, build tools. Prerequisites: upper-division standing and permission from the instructor.

### Topics

1. History of Unix (AT&T, BSD, Linux)
2. Editors (`vi`)
3. Shell programming (`bash`, `cs`, `expr`, `ksh`, `sh`, `test`)
4. File utilities (`cp`, `find`, `mkdir`, `mv`, `rm`)
5. Text utilities (`cut`, `diff`, `head`, `tail`, `tr`)
6. Programming with regular expressions (`awk`, `grep`, `sed`)
7. Program development (`gdb`, `make`)

### Learning Outcomes

Students will ...

1. Edit text files using a terminal-based editor.
2. Manipulate files and directories.
3. Write shell scripts to automate common tasks.
4. Use regular expressions to match patterns in files.
5. Develop C programs using build and debugging tools.

## **Policies**

### **Classroom Policies**

Recording (a video or audio replication or photographic image recorded on devices including, but not limited to, audio recorders, video recorders, cell phones, smartphones, digital cameras, media players, computers, or other devices that record images or sound) of classroom lectures is prohibited unless advance written permission is obtained from the class instructor and any guest presenters. Students who require recording or other adaptations of lectures as a reasonable accommodation for a disability should contact the Office of Disability Resources in advance of the lecture in order to obtain permission for the recording.

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