

Notes for ECE 26400 - Advanced C Programming

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These are lecture notes for fall 2023 ECE 26400 at Purdue. Modify, use, and distribute as you please.

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Course Introduction

This class will be taught by Joy Xiaoqian Wang. There will be four online exams, weekly online quizzes, and 20 homework assignments. For more information, consult the syllabus [here](#).

Tools

UNIX System: The environment we'll use in this course.

No matter your machine, you can use the UNIX environment. Some common commands in UNIX-like systems are:

- `ls` - List directory contents
- `cd` - Change directory
- `mkdir` - Make directory
- `rm` - Remove files or directories. Use `-rf` to recursively delete files regardless of permission
- `mv` - Move files or directories
- `diff` - Comparing two files and showing their difference. Use `-w` to ignore whitespace
- `cat` - Shows contents of file without opening
- `cp` - Create a copy of a file
- `[CTRL + U]` - Undoes what was last typed
- `chmod` - Change file permissions
- `chown` - Change file ownership

For a comprehensive list of UNIX commands, see Wikipedia's excellent [page](#)

- `kill` - Terminate processes
- `ssh` - Secure shell remote login
- `scp` - Securely copy files between hosts
- `wget` - Download files from the web
- `find` - Search for files and directories
- `vim` - Powerful text editor

To use these, simply type them in bash. For example, `ls` will print the contents of your directory.

```
$ ls
code-folder/  helloworld.c  homework/
```

Git for Version Control:

GCC:

Makefile:

GDB:

This is sample text to outline how notes will be structured. Notes will be a combination of text, code snippets, and math (when appropriate). would otherwise interrupt the notes.

Listing 1: Example Code

```
#include <stdio.h>
int main() {
    printf("Hello , World!");
    return 0;
}
```