# Key Dates

- Monday 11/16
  - LDOC! Async - Bringing home thsh...

- Tuesday 11/17
  - **Last date of office hours**
  - Last date to hand-in Labs

- Thursday 11/19
  - Final Exam - 4-7pm

# Life after 211...

- More content! I'll post these to the course playlist after Monday's lesson.
  - Makefiles
  - Shell Scripting
  - *More content coming on YouTube this Spring...*

- More courses!
  - COMP311 - Computer Organization
  - COMP431 - Networking
  - COMP520 - Compilers
  - COMP524 - Programming Languages
  - COMP530 - Operating Systems
  - COMP590 - The Design of Design - https://heelsabroad.unc.edu/index.cfm?FuseAction=Programs.ViewProgramAngular&id=11776

- Apply to be an Undergraduate Learning Assistant!
  - **https://bit.ly/comp-uta-sp-21**

- Start thinking about and setting career goals!
  - Newsletter on advice that doesn't fit in a course: **krisjordan.substack.com**

# Final Exam Topics to Consider

- Binary and Representations
- Bitwise Operators
- Data Types and Widths
- Pointers and Address of
- Malloc, calloc, realloc, free
- Structs, enums, typedefs
- Regular Expressions, Lexemes, and Lexical Analysis
- Grammars and Parsing
- General Knowledge: Paths, Shell, git
- System Calls and File Descriptors (open, close, fork, dup2, execve)

# Undefined Behavior / Memory Safety

- Lifetimes of automatic, stack, heap memory

- Use of heap memory after free

- Double free of heap memory

- Memory leak / failure to free

- Null pointer dereference

- Buffer overflow / write outside allocated bounds