Administrivia

- One purpose of the syllabus is to spell out policies (review today).

- Most information will be on the Web, on either my home page (office hours) or the course Web site.

Slide 1

About Minute Essays

- Most lectures will end with a "minute essay" — as a quick check on your understanding, a way for me to get some information, etc., and also to track attendance.

- I mention this now because this is a way you can ask me questions; as I go through today's material you may have some, and since you can't just raise your hand, if I say something you have a question about, make a note and include it in your essay.

Slide 2

Slide 3

A Few Words about Remote Teaching and Learning

- Last spring's abrupt switch to remote teaching and learning was difficult, and while the fall semester went better, I still have plenty to learn. Two lessons I took away:

  Trinity students are great! Almost without exceptions my students made sincere efforts to make the best of a non-ideal situation.

  Student access to resources varies. Some "check your privilege" moments for me!

Slide 4

A Few Words about Remote Teaching and Learning, Continued

- After a summer of trying to prepare for remote classes, and then a full semester's worth of them, there's still a lot I have to figure out / learn. Possibly true for you as well. Zoom meetings — there's a tendency to zone out. I'll try to reduce the temptation; please do your part too.

- No one knows how the pandemic will evolve and what further actions Trinity might need to take. Also, many people are really struggling. These are stressful times for (almost?) everyone!

- So I say let's all to try to be kind and tolerant with each other. Guiding principle:

  Start from the premise that we're all reasonable people trying to do the right thing.

Course Web Site

- "Course Web site" is meant to point you to pretty much all information for the course — readings, assignments, etc.

- You can find it via TLearn, or via the link from my home page (should be findable from the page about me in TU's Web site, or by doing a Web search on my name).

- A request: If you spot something wrong with course material on the Web, please let me know!

Slide 5

Syllabus

- (Review syllabus.)

- (Review course Web site, noting first reading quiz — coming soon.)

Slide 6

Slide 7

A Little About Me

- (Next time . . .)

Slide 8

"Why Is This Course Required?"

- We could view computer systems (hardware/software) in terms of layers of abstraction:
    - User interface.
    - Operating system / application programs / tools (compilers, e.g.).
    - High-level programming language / ADTs.
    - Machine language / data representations ("it's all 1s and 0s").
    - Hardware (could break this down, maybe, into logical design and EE).
- One goal of a CS degree program is to "demystify" as many of these as we can.

Slide 9

"Why Is This Course Required?", Continued

- Relating courses to layers of abstraction:
    - Programming courses — bridge gap between user interface and high-level languages.
    - Operating systems course — bridge gap between user interface / applications programs and hardware.
    - Course on compilers — bridge gap between application programs and machine language.
    - This course — bridge gaps between application programs and machine language (a bit) and between machine language and hardware.

Slide 10

Course Topics

- An overview of how hardware is structured logically and how hardware and software are related.

- A little about defining and measuring performance.

- Assembly language (MIPS because it's simple and representative).

- Machine language (also MIPS).

- Hardware (at level of AND/OR gates).

Slide 11

Why Study Assembly / Machine Language?

- Understand the general principles of how things work at this level, which helps you:
  - Write more efficient programs.
  - Understand operating systems (which also helps you write more efficient programs).
  - Generally understand better what's really happening in the machine.
- It might be fun?

Slide 12

About Minute Essays, Revisited

- Most lectures will end with a "minute essay" — as a quick check on your understanding, a way for me to get some information, etc., and also to track attendance.
- Send me your answer(s) by e-mail (no word-processor attachments please). And *please* put "minute essay" and the course in the Subject line.

Slide 13

Minute Essay

- Where are you located now? Do you plan to be on campus as soon as it opens?

- Do you have access to a suitable environment for remote learning? adequate 'Net access and a reasonably quiet place to work?

- Tell me a little about your background: What programming classes have you taken (at Trinity or elsewhere)? (It's okay just to say "standard stuff for sophomore CS major".) Which of them did you like best/least?

- Any goals for the course, aside from "do well"?

- Anything else you want to tell me? about the course, what you did over the winter break, . . . ?