Lec-0-Hello   **COSC-120, Computer Hardware Fundamentals**

Prof. Richard K. Squier, 339 St. Mary's
    office hours: 12:30-1:30 Tue/Thu, and by appointment
    squier@cs.georgetown.edu
    http://www.cs.georgetown.edu/~squier/Teaching

Course web sites:

    Primary:
    https://svn.cs.georgetown.edu/svn/projects2/120-2013/CourseDocuments

        You will want to "svn co" this, **but only if you promise not** to "svn ci" or do
        anything else except "svn up". Otherwise, web access is ok, if you keep up
        to date w/ changes.

    Project Materials:
    https://svn.cs.georgetown.edu/svn/projects (see LC3tools, LC3trunk)

        You will want to "svn co" this, **but only if you promise not** to "svn ci" or do
        anything else except "svn up". Otherwise, web access is ok, if you keep up
        to date w/ changes.

    Secondary (Read-only, access via a web browser only):
    www.cs.georgetown.edu/~squier/Teaching/HardwareFundamentals/120-2013-CourseDocuments/

Why this course?
        -- expected factual knowledge in later courses and employment
        -- removing superstitious thinking (theories of what goes on in the box)
        -- analytic skill
        -- basic skills: tools and their uses
        -- design/implementation processes, technical and economic motivations
        -- understanding perfomance limitations
        -- preparation for coming changes

Course content:
        -- PP Chps 1-10, Appendices A, C, and E
        -- Documentation in project materials (design/implement a processor)
        -- Documentation on course web site
        -- Subversion (source code version control, electronic distribution)
        -- Electric (system design tool)
        -- Verilog (system description/simulation/verification tool)
        -- Electronic circuit breadboard (basic component prototype construction)
    (See syllabus)

Course sequence:
        -- 120: Processors: theory and mathematics, instruction sets, devices, organization, programming
        -- 121: Systems: components, organization, performance, hardware/software interface, heirarchy

Required Text

Patt & Patel
Introduction to Computing Systems
2nd Edition, 2nd Printing

McGraw-Hill, 2004
ISBN-10: 0-07-246750-9

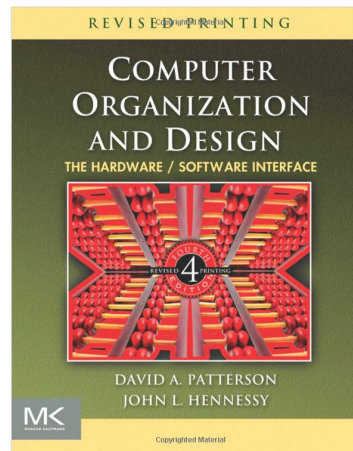(perhaps can use Patterson & Hennessy
instead?)
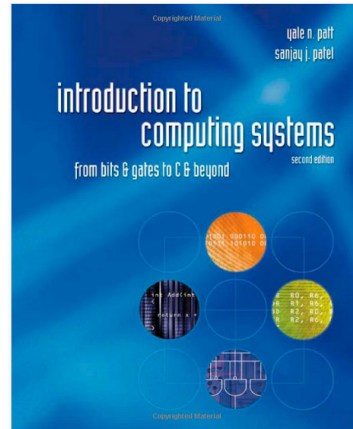
Optional Text

Patterson & Hennessy
Computer Organization and Design
4th Edition, Revised Printing

Morgan-Kaufmann, 2012
ISBN-13: 978-0-12-374-750-1

Required for 121

Cover Sheet Format for ALL submissions:

For every assignment, a paper coversheet will be submitted in class on the due date,
EVEN if the assignment's material is electronic. Here is the format:

```
name          ← your name
cosc-120, 2013
Lec-1-HW-1-tools    ← assignment name

Comments:          ← comments on difficulties, successes,
                     file locations, ..., if any
Results and/or solutions:
```

Academic Integrity and Grades:

-- Whom do you trust to give you reliable information?
       -- Scientific knowledge depends on trust?
       -- Scientific knowledge depends on skepticism?
-- Students are motivated
       -- to be as efficient as possible in attaining knowledge (certificates of knowledge)?
       -- by teachers/parents/employers via grade expectations
       -- by pride (positive and negative)
       -- by anger from perceived unfairness (being thwarted)
-- Faculty are motivated
       -- to be as efficient as possible in delivering knowledge (and assessments)
       -- by students/parents/administrators/faculty via grade expectations
       -- by pride (positive and negative)
       -- by anger from perceived unfairness (being thwarted)

===> Students vs. Faculty? (Its all about grading and efficiency)

I will assess your performance as best I can from:

-- class participation (including homework submissions)
-- exams
-- oral exams based on projects

I will try to avoid basing my assessments on material that has unknown origins.
That means:

-- Your submitted work will not count toward your grade except as evidence of participation
-- Grading your submitted work is intended only to guide you
-- You may gather material from any source with or without attribution
-- Collaboration is encouraged (and is very important in employment)
-- Sharing/teaching is a very efficient way of learning
-- Get help as soon as possible, don't get stuck

See syllabus