

# **CMPSCI 105 -- Fall 2009**

## **LECTURE #1 (EXPANDED)**

- **Professor: Dr. William T. Verts**
- **Office: LGRC A357**
- **Hours: TuTh 2:00-3:45**
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### **Required Book**

- **Computer Literacy Workbook**
  - 16<sup>TH</sup> Edition, 2009-2010 (yellow, 2 vols.)
  - William T. Verts

### **Course Grading**

- **20% Midterm Exam (requested: October 29<sup>TH</sup>, 7:00-9:00pm)**
- **20% Final Exam (Final's Week)**
- **40% Weekly Laboratory Assignments**
- **15% Homework (electronic submissions)**
- **5% In-Class Quizzes (NO make-ups)**

### **Lab Work**

- **PC running Windows XP or Vista only, Macs allowed but not recommended**
- **You can seek help from any TA**
- **Turn in printed lab work to TA at lab or office, or to me in class**
- **Pick up corrected work from personal file folder in TA's office**
- **To work at home you must have: browser, Microsoft Office 2003 or 2007 (Office 2008 on the Mac), PuTTY, WinSCP, Acrobat Reader (I'll show how to get and install the last three programs)**

## Laboratory Schedule

- *No Lab this week*
- *No Lab next week*
- *Lab work due 1 week after assigned (but labs 6&7 are 2 weeks)*
- *Do your own work!*

## Materials Required by First Lab

- *Computer Literacy Workbook 16<sup>TH</sup> Edition*
- *Flash Drive (in case you need to bring me a file to examine)*
- *Stapler*

## Campus Laboratories

- *Labs for CMPSCI 105*
  - Library 16th Floor PC Lab (DuBois) room 1685

## Course Content

- *Mathematics*
- *Operating Systems*
- *Internet Tools*
- *Productivity Tools (Microsoft Office 2007)*
- *Miscellaneous Programs and Techniques*

## Mathematics

- *Base Conversions*
- *Truth Tables, Gates & Circuits*
- *Scientific Notation*
- *Units Conversion (Dimensional Analysis)*
- *Graphing*
- *Numerical Precision & Accuracy*

# Operating Systems

- ***Purposes and Capabilities***
- ***Command Line vs. Graphical Interface***
- ***Examples***
  - MS-DOS
  - UNIX and Linux
  - Windows 95/98/CE/ME/NT/XP/Vista
  - Macintosh (uses UNIX)

## MS-DOS & UNIX

- ***File Naming Conventions***
- ***Hierarchical File Directories***
- ***Command Line computing***
- ***Basic Commands***
  - File Maintenance
  - Running Programs

## Windows

- ***File Maintenance***
  - Folders & Shortcuts
  - Locating/Moving/Copying/Deleting Files
  - Compressed Archives
- ***Launching Programs (many methods)***
- ***Accessories (preinstalled programs)***

## Internet Tools

- ***Web Browsing***
- ***Web Page Design***
- ***Telnet (encrypted)***
- ***FTP (encrypted)***
- ***UNIX Tools (emacs, pine)***

## **Productivity Tools**

- ***Word Processing (Microsoft Word)***
- ***Spreadsheets (Microsoft Excel)***
- ***Databases (Microsoft Access)***

## **Word Processing**

- ***Word-Wrap***
- ***Basic Formatting***
  - Character (Fonts & Typefaces)
  - Paragraph (Indentation & Justification)
  - Document (Margins & Layout)
- ***Mail Merge***

## **Spreadsheets**

- ***Basic Layout & Metaphors***
- ***Writing & Editing Formulae***
- ***Moving & Copying Formulae***
- ***Automatic Update***
- ***Formula vs. Value vs. Format***
- ***Solving Large "What If?" Questions***

## **Databases**

- ***Creating Table Structures***
- ***Appropriate Selection of Data Types***
- ***Entering Data & Automatic Validation***
- ***Simple Queries on Tables***
- ***Report Construction***
- ***Joins (Queries with 2+ data sources)***

## Questions You'll be able to Answer

- *How do I move a file from one type of computer to another?*
- *What happens to a spreadsheet formula when it is copied?*
- *When do I use a spreadsheet and when do I use a database?*
- *How do I use software I don't know?*

## Forbidden Statements (Passive):

- *I'm not very good in Math.*
- *I don't know much about computers.*
- *I don't know what to do.*

## Allowed Statements (Active):

- *This is what I've tried, this is what I understand, but this piece I need help with.*
- *Can you show me how to approach this class of problem?*
- *Can you show me where I went wrong in this answer?*

## Some Friendly Advice

- *Come to All Classes*
- *Keep up with the Reading*
- *Do your Labs and Homework on time*
- *EMail is your Friend (learn to use it well)*
- *Seek help when you need it*
- *RTFM! (Read The F\*\*\*\*\* Manual)*

## A Few Things I Know...

- *Ignorance is curable*
- *Learning is Hard Work*
- *Not all problems have been solved*
- *Not all solutions are on the Internet*
- *Science is inherently self-correcting over time*
- *"Data" are plural, "Datum" is singular*

## **Arthur C. Clarke (1917-2008)**

- ***Any Sufficiently Advanced Technology is Indistinguishable from Magic***

## **History of Computing**

- ***Computers are Older than you Think.***
- ***No, I mean Really Older!***
- ***You can't know where you are going until you know where you've been!***
- ***Lessons from the past offer insights into the future.***

## **Oldest Known Computing Devices**

- ***Calendars***
  - Stonehenge?
  - Aztec & Mayan
- ***Abacus or Tally systems (prehistoric, many cultures – Incan, Roman, Chinese, Japanese, Russian)***
- ***Antikythera Machine (65 b.c.e.)***

## **Early Computing Devices**

- ***John Napier (logs) & William Oughtred (slide rule) (~1600)***
- ***Blaise Pascal's Adder (1626)***
- ***Gottfried Leibniz's Multiplier (1651)***
- ***Joseph Marie Jacquard's Loom (1801)***
- ***Charles Babbage's "Engines" (1835)***
  - Lady Augusta Ada of Lovelace's programs
- ***Herman Hollerith's Tabulator (1890)***

## 20th Century Early Computers

- *Card based tabulators (IBM, pre-WWII)*
- *Mechanical Adders (Burroughs, etc.)*
- *Konrad Zuse's devices (German, WWII)*
- *Harvard Mark I (1944)*
- *ENIAC (Princeton, 1945)*
- *UNIVAC*

## 1960's & 1970's

- *IBM (704, 709, 7090, 360, 370)*
- *CDC (3300, 6500, 6600, 6700, Cyber)*
- *DEC (PDP-8, PDP-11/70, VAX)*
- *Data General*
- *Cray supercomputers*
- *Many others, long forgotten*

## Microcomputer Era

- *Pre-1977 (Pet, Kim-1, S-100's, etc.)*
- *Apple ][ (1977)*
- *IBM-PC (MS-DOS, 1981)*
- *PC "Clones" (1981-present)*
- *Apple Macintosh (1984-present)*
- *Rise of Windows (1985-present)*

## Microsoft Windows (consumer)

- *Windows 1.0 (1985 - 1st "attempt")*
- *Windows 3.0 (1990 - 1st "working")*
- *Windows 3.1 (1992 - 1st "useful")*
- *Windows 95 (1995 - 1st "practical")*
- *Windows 98 (1998 - upgrade to 95)*
- *Windows ME (2000 - last of the 9X line)*

## **Microsoft Windows (network, etc.)**

- *Windows NT 3.51*
- *Windows NT 4.0*
- *Windows 2000 ("NT 5.0")*
- *Windows XP (current, but diminishing)*
- *Windows Vista (current)*