

**What do I Need to Study?**

- All of the lecture notes and overheads up are examinable. You should focus on the overheads when studying. The lecture notes will help you fill in the gaps.
- All of the material covered in laboratories is examinable. It is a good idea to review your labs.
- If we stressed something in lecture or spent more time on it, then this is a good indication we think it is important and you will find a question about it on the exam.
- You will not see the exact questions as were on the test, but there could be some similar ones. Therefore reviewing the test is also good idea.

*Review of Topics we have covered(Myra's part)***Hardware:**

- Categories of Hardware:
- Processing
 - Input
 - Output
 - Storage
 - Communication
- Components of the System Unit
 - CPU (brain)

- Speed measured in instructions per second (Mhz – millions of instructions/second)
 - Clock synchronized
 - Moore's Law
 - Memory Chips
 - Random Access Memory (RAM)
 - Read Only Memory (ROM)
 - Sockets and Bus
- Measuring Information
 - Bits and bytes, powers of 2
- Input Devices
- Output Device
- Secondary Storage

Representing Information:

- Flow of Information
 - User-> Application->Operating System -> Hardware
- Representing information using electricity
 - 2 states of digital information: off/on (0/1)
- Number Systems
 - Decimal
 - Binary
 - Converting Binary to Decimal
 - Converting Decimal to Binary
 - Adding binary numbers
- Analog vs. Digital
 - Digitizing – mapping from binary source to digital
- Standards

Software:

- Types of Software
 - System Software –Manages computer resources, helps applications use the computer
 - Application Software – Tools for the end user
 -
- Operating Systems: Supervisor, I/O Controller, Memory Manager, File manager, User Interface

History of Personal Computers

- **Before Computers:**
 - Wilhelm Schickard (1592 – 1635) - mechanical calculating clock
 - Blaise Pascal (1623 – 1662) - mechanical calculator
 - Gottfried Wilhelm von Leibniz (1646 – 1716) – digital calculating machine
 - Joseph Jacquard (1752 – 1834) - weaving loom using punch cards
 - Charles Babbage (1792 – 1872) - difference engine/analytical engine
 - Ada Augusta (Countess of Lovelace) (1816-1852) – documentation for analytical engine
 - Dr. Herman Hollerith (1860 – 1929) – mechanical punch card tabulator for census (Tabulating Machine Company)
- **Early Computing Players:**
 - IBM
 - Intel
 - Xerox
 - Altair
 - Microsoft
 - Apple

- **Market Forces that Changed Computing:**

- VISICALC
- IBM
- Microsoft DOS
- Clones
- Macintosh
- Adobe
- Compaq's 386
- Windows

- **Computers Today**

Data communications and the Internet:

- Data Transmission
- Channels
- Transfer Rates
- Modem
- Traditional Networks vs. packet switched networks
- How the Internet evolved
- Protocols – standard methods of communicating
 - TCP/IP (Transmission Control Protocol/ Internet Protocol)
- Internet Growth
- Network Categories
 - LAN, WAN, an internet, the Internet
- Client/Server
- Connecting to the Internet
- Email and Plain Text (mime)
- Interpreting Addresses
- Forums
- Reading the News
- Working with Usenet
- Terminology
- Netiquette

World Wide Web:

- Vannevar Bush - idea of hypertext (1945)
- Ted Nelson – first hypertext system(1960) - Xanadu
- Tim Berners-Lee – Started www project (1989)
- Multimedia The integration of many forms of media
- Hypermedia - The combination of Hypertext and Multimedia
- The WWW project
 - HTTP
 - WWW
 - Domain Names
 - IP addresses
 - DNS (Domain Name Server)
 - Cyberspace Addresses
 - Uniform Resource Locators (URL)
 - Protocol
 - Domain
- Terms
 - Web Site
 - Web Page
 - Web Browser
 - Plug-in
 - Cache
 - Proxy
 - Firewall
- Navigating
 - Search Engines
 - Directory services
- Problems with the structure of the WWW
- Current Uses of the WWW

Social Issues and the WWW:

- Speed of Change
- General Social Issues of Technology
- Web Anonymity
- Email and Society
- Censorship
- Cyber Porn
- Other "dangerous" material
- Concerns for the public
- NZ's attempt to find a solution
- USA Solution?
- Internet Community Solution

Spreadsheets (Excel):

- Changing appearance of Cells
- Formulae
- Using Cell References
- Filling Down and Filling Right
- Relative References
- Cell references that don't change
- Mixing Relative and Absolute references
- Using built-in functions
- Range of Cells
- Boolean Logic
- IF functions
- Nested IF function
- Looking up values in a table
- VLOOKUP, HLOOKUP
- Sorting
- Drawing a Graph

Word Processing:

- Basic Features of a Word Processor

- Setting Preferences
- Viewing the Page
- Find and Replace
- Spelling and Grammar
- Formatting
- Font
- Paragraph
- Indenting Paragraphs
- Format Document
- Borders and Shading
- Columns
- Using Breaks
- Header and Footer
- Footnote/ Endnote
- Styles

Computer Graphics:

- Bitmap Graphics
 - Storing pictures digitally
 - Black and White pictures vs. Colour bitmaps
 - How much memory is required?
 - Displaying Images
 - Printing Bitmaps
 - Compressing Images
 - Compression Algorithms
 - Graphics Interchange Format (GIF)
 - Joint Photographic Experts Group (JPEG)
 - Lossy vs. Lossless
- Vector Graphics
- Drawing Tools
 - Palettes
 - Working with Objects
 - Grouping Objects
 - Layers
 - Text Boxes/ Text Frame
- Creating Three-Dimensional Graphics
 - Modelling and Simulation
 - Image Rendering
 - Difficulties
 - Coordinates
 - Ray Tracing

HTML:

- Markup Languages
- Hypertext Markup Language (HTML)
- Overview of commands
- Container Tags (begin and ending tag, ` `)
- Separator Tags (single tag used to separate `<hr>`)

- Essential HTML Tags
 - <HTML>
 - <HEAD> </HEAD>
 - <BODY>
 - </BODY>
 - </HTML>

- Title tag <TITLE> </TITLE> - goes inside of the header tag
- Header tags (H1, H2...H6)
- Know your common tags
- Tables, ordered, and unordered lists
- Adding inline images
- Adding hyperlinks
- Style sheets