KVCC CPT 126 Introduction to Digital Literacy

Outlines

Instructor Name

Kennebec valley community college

Contents

[Class 1 2](#_Toc469053860)

[Class 2 4](#_Toc469053861)

[Class 3 6](#_Toc469053862)

[Class 4 9](#_Toc469053863)

[Class 5 11](#_Toc469053864)

[Class 6 13](#_Toc469053865)

[Class 7 14](#_Toc469053866)

[Class 8 16](#_Toc469053867)

[Class 9 18](#_Toc469053868)

[Class 10 20](#_Toc469053869)

[Class 11 23](#_Toc469053870)

[Class 12 25](#_Toc469053871)

[Class 13 27](#_Toc469053872)

[Class 14 28](#_Toc469053873)

[Class 15 29](#_Toc469053874)

[Class 16 30](#_Toc469053875)

[Class 17 31](#_Toc469053876)

[Class 18 32](#_Toc469053877)

[Class 19 33](#_Toc469053878)

[Class 20 34](#_Toc469053879)

[Class 21 35](#_Toc469053880)

[Class 22 36](#_Toc469053881)

[Class 23 37](#_Toc469053882)

[Class 24 38](#_Toc469053883)

[Class 25 40](#_Toc469053884)

[Class 26 41](#_Toc469053885)

# Class 1

1. Introduction both personal and to the class
2. Syllabus review
   1. Methods to communicate with instructor.
   2. Office Hours – I am always available by phone, text, and email otherwise.
   3. Textbook - Technology In Action, Complete 13TH ed 2017, by Alan Evans, Kendal Martin, and Mary Anne Poatsy ISBN: 0-13-447450-3
   4. Course Description, Objectives, and Content
   5. Grading
   6. Attendance – attendance will be recorded both in class and using video tracking software for the online students, more on this later.
   7. Course Requirements
      1. Assignments – one assignment a week and are usually application based. You have a full week to complete. All assignments are posted online.
      2. Exams – There are a few exams during this class and like the assignments will require you to apply the information that you have learned up to that point. They will all be open book because of this. You will have a week for normal exams and two weeks for the final.
      3. Project – There is a project that requires you to select a piece of software to accomplish the goals of an organization.
   8. Other bits and pieces
3. Blackboard demonstration and exploration
4. Lecture capture
   1. All classes will be recorded and placed online within hours of class.
   2. When video is ready for viewing an email will be sent out.
   3. Videos will require the inputting of your email address before viewing. This will allow tracking of your views of the video and will be used for attendance purposes.
   4. Screen casts will be done for any demonstrations that are made during class and posted in a similar fashion.
5. What is the point of this class?
   1. This class has been built to provide an exposure to most of the topics that will be covered in this degree. This class will establish the foundation on such topics such as networking, business software, mobile devices, security, and databases.
6. Why you should be excited.
   1. Technology has its own language and part of being digital literate is knowing the terms and being able to identify various components. You can break these terms out at parties and impress your friends or at the least start being able to talk the talk.
   2. Knowing the language is good but the next step would be to develop an understanding of how these technologies and components actually work. This class will begin to explain how computers work not from the technician side but instead from a perspective of managing these devices and integrating them into a business.
   3. Being digitally literate is necessary in the modern workforce with the growing adoption of technology. It is almost impossible to think of a modern business that does not use technology in some way or another. Knowing these fundamentals will allow you to enter the workplace in more seamless manner.
   4. We generally use the Internet on a daily basis but most of us have learned by trial and error and have not developed tricks to search and use the tools efficiently. This is important especially in a business setting where time equals money.
   5. Businesses are collecting and storing data on items such as customers and sales transactions. This data can be overwhelming and that is where databases come into play which allow you to manage and make something meaningful and useful within the organization.
7. Assignment Review

# Class 2

Chapter 1 Using Technology to Change the World Outline

1. Technology and global issues
   1. Political uses
   2. Crisis-Mapping Tool
   3. Health Care
   4. Environment
   5. Digital Divide
   6. Other global problems
2. Technology and our society

a. Impacts how we think

i. Cognitive surplus

ii. Motivation

1. Autonomy

2. Mastery

3. Purpose

* 1. Impacts how we connect
     + 1. Connecting through music
       2. Connecting through business

1. Crowdfunding

1. Impacts how we consume
2. Marketing

1. QR codes

2. Crowdsourcing

ii. Access Versus Ownership

Collaborative Consumption

3. Technology at home

a. Reasons to be digitally literate

1. Avoiding Hackers and viruses
2. Protecting your privacy
3. Understanding the real risks
4. Using the web wisely
5. Avoiding online annoyances
6. Being able to maintain, upgrade, and troubleshoot your computer

4. Technology and your career

1. Information Technology
2. Retail
   * 1. Data Mining
     2. Digital Art
3. Education and learning
4. Law Enforcement
5. Computer Forensics
6. Medicine
7. Augmented Reality
8. Science
9. Psychology
10. Affective Computing

# Class 3

1. Assignment 1 Review

Chapter 1 Continued

1. Education and learning
2. Law Enforcement
3. Computer Forensics
4. Medicine
5. Augmented Reality
6. Science
7. Psychology
8. Affective Computing

Chapter 2

 Functions of a computer

1. Input
2. Process
3. Output
4. Storage

1. Data vs. Information
2. Binary

a. Binary Digit or Bit

b. Byte

c. Conversions

3. Metric vs storage -

a. Kilobyte

b. Megabyte

c. Gigabyte

d. Terabyte

e. Petabyte

f. Exabyte

g. Zettabyte

4. Hardware

5. Software

a. Application

b. System Software

c. Operating System

6. Types of Computers

a. Tablet/Convertible b. Laptop/Notebook

c. Netbook

d. Ultrabook

e. Desktop

f. Mainframe

g. Super Computer

h. Embedded Computer

i. Smartphones

7. Input Devices

a. Keyboard

i. Layouts

1. QWERTY

2. Dvorak

ii. Style

1. Mechanical

2. Electrical

3. Touch Screen

4. Laser

5. Blue Tooth

iii. Keyboard Short cuts

b. Mice and Pointing devices

i. Optical Mice

ii. Specialty Mice

iii. Touch Mice

c. Image Input

i. Scanners ii. Webcams

d. Sound Input

i. Microphones

8. Dig Deeper - How Touch Screen Works

a. Resistive

b. Capacitive

c. Surface Acoustic Wave

9. Ethics in IT

10. Output Devices

a. Monitor

i. Types

1. CRT

2. LCD 3. LED

4. OLED

5. Projectors

ii. Factors

1. Aspect Ratio

2. Screen Resolution

3. Contrast Ratio 4. Viewing Angle

5. Brightness

6. Response Time

b. Printers

i. Types

1. Impact

a. Dot Matrix

2. Non-Impact

a. Inkjet b. Laser

3. Other Printers

a. All in one

b. Plotter

c. Thermal Printer

4. Considerations

a. Speed

b. Resolution

c. Color Output

d. Cost of Consumables

c. Speakers

# Class 4

4. Hardware

5. Software

a. Application

b. System Software

c. Operating System

6. Types of Computers

a. Tablet/Convertible

b. Laptop/Notebook

c. Netbook

d. Ultrabook

e. Desktop

f. Mainframe

g. Super Computer

h. Embedded Computer

i. Smartphones

7. Input Devices

a. Keyboard

i. Layouts

1. QWERTY

2. Dvorak

ii. Style

1. Mechanical

2. Electrical

3. Touch Screen

4. Laser

5. Blue Tooth

iii. Keyboard Shortcuts

b. Mice and Pointing devices

i. Optical Mice

ii. Specialty Mice

iii. Touch Mice

c. Image Input

i. Scanners

ii. Webcams

d. Sound Input

i. Microphones

8. Dig Deeper - How Touch Screen Works

a. Resistive

b. Capacitive

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3. LED

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5. Projectors

ii. Factors

1. Aspect Ratio

2. Screen Resolution

3. Contrast Ratio 4. Viewing Angle

5. Brightness

6. Response Time

b. Printers

i. Types

1. Impact

a. Dot Matrix

2. Non-Impact

a. Inkjet b. Laser

3. Other Printers

a. All in one

b. Plotter

c. Thermal Printer

4. Considerations

a. Speed

b. Resolution

c. Color Output

d. Cost of Consumables

c. Speakers

# Class 5

Output Devices

a. Monitor

i. Types

1. CRT

2. LCD

3. LED

4. OLED

5. Projectors

ii. Factors

1. Aspect Ratio

2. Screen Resolution

3. Contrast Ratio 4. Viewing Angle

5. Brightness

6. Response Time

iii. 4k - 8k

b. Printers

i. Types

1. Impact

a. Dot Matrix

2. Non-Impact

a. Inkjet b. Laser

3. Other Printers

a. All in one

b. Plotter

c. Thermal Printer

d. Solid Ink

4. Considerations

a. Speed

b. Resolution

c. Color Output

d. Cost of Consumables

c. Speakers

Monitor Speakers

MIT App Inventor 2

Processing

1. Motherboard
2. Memory
3. RAM
4. ROM
5. Processing
6. CPU
   1. Speed
   2. Multicores

Storage

1. Hard Drives
   1. Magnetic
   2. Solid State
   3. Cloud Storage
2. Ethics in IT - Ethical Computing
3. Portable Storage
   1. Thumb Drives
   2. Portable Hard Drives
4. Optical Storage
   1. CD
   2. DVD
   3. Blu-ray

Connecting Devices

1. Green IT
2. Data Ports
3. USB
4. Thunderbolt
5. Firewire
6. HDMI
7. Ethernet
8. VGA
9. DVI

Power Controls and Ergonomics

1. Power Controls
2. Ergonomics
3. Innovations in Printing
4. Cloud Printing
5. 3d Printing

# Class 6

Assignment 2 Review

Graphene

The Singularity

Exam Review

Chapter 2 Continued

Storage

1. Hard Drives
   1. Magnetic
   2. Solid State
   3. Cloud Storage
2. Ethics in IT - Ethical Computing
3. Portable Storage
   1. Thumb Drives
   2. Portable Hard Drives
4. Optical Storage
   1. CD
   2. DVD
   3. Blu-ray

Connecting Devices

1. Green IT
2. Data Ports
3. USB
4. Thunderbolt
5. Firewire
6. HDMI
7. Ethernet
8. VGA
9. DVI

Power Controls and Ergonomics

1. Power Controls
2. Ergonomics
3. Innovations in Printing
4. Cloud Printing
5. 3d Printing

# Class 7

1. Origin of the Internet
   1. The Cold War
   2. Department of Defense
   3. ARPA
      1. Packet Switching
      2. ARPANET
      3. TCP/IP
   4. WWW
      1. Berners Lee
      2. Mosaic
         1. Marc Andreessen
   5. How the Internet works
      1. Client
      2. Server
      3. IP Addressing
   6. Web 2.0
      1. Social Networking
         1. Personal
         2. Business
         3. Dos and Don’t's
      2. Wikis
      3. Blogs
      4. Podcasts/Webcasts

RSS

1. Email
   1. Privacy
   2. Etiquette
   3. Email systems
      1. Webmail
      2. Email clients
2. Instant Messaging
   1. SharePoint/Lync
   2. Slack
3. E-commerce
   1. Types of
      1. Business to consumer B2C
      2. Business to business B2B
      3. Consumer to consumer C2C
   2. Social Commerce
   3. Safeguards
4. Multimedia

Graphics

Audio Files

Video Files

Streaming Media

Plugins

HTML5

# Class 8

1. Email
   1. Privacy
   2. Etiquette
   3. Email systems
      1. Webmail
      2. Email clients
2. Instant Messaging
   1. SharePoint/Lync
   2. Slack
3. E-commerce
4. Types of
   1. Business to consumer B2C
   2. Business to business B2B
   3. Consumer to consumer C2C
5. Social Commerce
6. Safeguards
7. Multimedia

Graphics

Audio Files

Video Files

Streaming Media

Plugins

HTML5

1. Web Browsers
   1. Edge
   2. Firefox
   3. Google Chrome
   4. Safari
2. Parts of the URL
3. Protocols
   1. HTTP
   2. FTP
   3. BitTorrent
4. Search Privacy
   1. DuckDuckgo
5. Semantic Web
6. Searching effectively
   1. Search Engines
   2. Metasearch Engines
   3. How do search engines work?
      1. Spider

Indexer

Search Engine Software

Algorithm

1. Refining searches
2. Evaluating websites contents
   1. Authority
   2. Bias
   3. Relevance
   4. Audience
   5. Links
3. Plagiarism and Copyright
4. Cyberbullying
5. Privacy

# Class 9

1. Assignment 3
2. Evaluating websites contents
   1. Authority
   2. Bias
   3. Relevance
   4. Audience
   5. Links
3. Plagiarism and Copyright
4. Cyberbullying
5. Privacy

History of Computers

1. Altair – first personal computer
2. Apple I and II
3. Competitors
   1. Commodore PET
   2. TRS 80
4. First Portable Computer – the Osborne
5. IBM – the creation of the PC
6. Operating Systems
   1. CLI
      1. Apple DOS
      2. CP/M
      3. MS-DOS
   2. GUI
      1. Xerox Alto

1. Software Applications
   1. BASIC
   2. Office Applications
      1. VISICALC
      2. Lotus 123
      3. MS Office
2. The Internet
3. Early computers and counting machines
   1. 1642 Pascalene – the first mechanical calculator
   2. 1842 Jacquard Loom – a loom that used punch cards to produce complex weaves and designs
   3. 1834 Babbage Engines – Analytical engine became the ground work for the modern computer
      1. Contained the following concepts
         1. The store – like RAM
         2. The mill – like a CPU
         3. Input
         4. Output
      2. Ada Lovelace – wrote about Babbage’s works.
   4. 1890 Hollerith Tabulating Machine – an application of the jacquard loom into a counting machine. This machine became popular and resulted in the development of IBM.
   5. 1936 Z1 – Developed a control unit and separate memory
   6. 1939 ABC – First computer to use binary and volatile memory.
   7. 1944 Harvard Mark 1 – developed for the Navy for gunnery calculations
   8. 1936 Turing Machine – not a real device but a concept that lead to the development of RAM.
   9. 1944 ENIAC – again developed to be used in weapon systems is widely considered to be the first digital computer.
   10. 1951 UNIVAC – First widely used digital computer and used magnetic tapes instead of punch cards. This is usually considered the first generation of computers.
   11. A year later the transistor was created and this changed everything and led to the second generation of computers.
   12. 1958 – Jack Kilby created the integrated circuit which is a small chip full of thousands of transistors and this allowed for the smaller devices and kick started the third generation of computers.
   13. 1971 – Intel created the microprocessor which consists of millions of transistors. These CPUs started the 4th generation of computers.

# Class 10

Exam 1 Review

1. GUI
   1. Xerox Alto
2. Software Applications
3. BASIC
4. Office Applications
   1. VISICALC
   2. Lotus 123
   3. MS Office
5. The Internet
6. Early computers and counting machines
7. 1642 Pascalene – the first mechanical calculator
8. 1842 Jacquard Loom – a loom that used punch cards to produce complex weaves and designs
9. 1834 Babbage Engines – Analytical engine became the ground work for the modern computer
   1. Contained the following concepts
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      4. Output
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17. A year later the transistor was created and this changed everything and led to the second generation of computers.
18. 1958 – Jack Kilby created the integrated circuit which is a small chip full of thousands of transistors and this allowed for the smaller devices and kick started the third generation of computers.
19. 1971 – Intel created the microprocessor which consists of millions of transistors. These CPUs started the 4th generation of computers.

Chapter 4

1. Software – Set of instructions that tells the computer what to do.
2. Program – an instruction set allows for users to interact with and use the computer
3. 2 Main types of Software
   1. Application
   2. System
4. 2 Types of Installable Software
   1. Proprietary/Commercial
   2. Open Source
5. Trends Mobile Payments
6. Types of Applications
   1. Local
   2. Mobile
   3. Web Based - SaaS
7. Productivity Software
8. Software Suites
9. Word Processing
10. Spreadsheets
11. Presentation Software
12. Database Software
13. Note taking software
14. Personal information Manager software
15. Personal Financial Software
16. Small Business Software
    1. Accounting
    2. Desktop Publishing
    3. Creating Websites
17. Large and Specialized Business
    1. Project Management
    2. Customer Relationship Management
    3. Enterprise Resource Planning
    4. E-Commerce
    5. Marketing and Sales
    6. Vertical Market Software
    7. CAD
18. Multimedia and Entertainment Software
    1. Image Editing
    2. Video Editing
    3. Cloud Computing
    4. Digital Audio
    5. Gaming Software
    6. Educational and Reference software
    7. Drawing/ART Software
19. Managing your Software

# Class 11

Chapter 4

1. Assignment 4
2. How cool is this
3. Software – Set of instructions that tells the computer what to do.
4. Program – an instruction set allows for users to interact with and use the computer
5. 2 Main types of Software
   1. Application
   2. System
6. 2 Types of Installable Software
   1. Proprietary/Commercial
   2. Open Source
7. Trends Mobile Payments
8. Types of Applications
   1. Local
   2. Mobile
   3. Web Based - SaaS
9. Productivity Software
10. Software Suites
    1. Microsoft Office
    2. Open Office
    3. Libre Office
    4. Apple Iwork
11. Word Processing
12. Spreadsheets
13. Presentation Software
14. Database Software
15. Note taking software
    1. Onenote
    2. Evernote
16. Personal information Manager software
17. Personal Financial Software
18. Small Business Software
    1. Accounting
    2. Desktop Publishing
    3. Creating Websites
       1. Content Management Systems
19. Large and Specialized Business
    1. Project Management
       1. Microsoft Project
    2. Customer Relationship Management
       1. Enterprise Resource Planning
20. E-Commerce
21. Marketing and Sales
22. Vertical Market Software
23. CAD
24. Multimedia and Entertainment Software
    1. Image Editing
       1. Photoshop
       2. Gimp
    2. Video Editing
    3. Cloud Computing
       1. AWS
       2. Azure
       3. Linux VPS
    4. Digital Audio
       1. Audacity
    5. Gaming Software
       1. Swift
    6. Educational and Reference software
    7. Drawing/ART Software
25. Managing your Software
    1. Getting Software
       1. App stores
       2. Freeware
       3. Betas
    2. Software Licensing
       1. Eula
    3. Borrowing Software
    4. Upgrading
    5. Bloatware
    6. Recovery

# Class 12

1. Assignment 3 Review
2. Database Software
   1. SQL
      1. Oracle
      2. MySQL
      3. Microsoft
3. Note taking software
   1. Onenote
   2. Evernote
4. Personal information Manager software
5. Personal Financial Software
6. Small Business Software
   1. Accounting
   2. Desktop Publishing
7. Creating Websites
   * 1. Content Management Systems
   1. Large and Specialized Business
   2. Project Management
      1. Microsoft Project
   3. Customer Relationship Management
   4. Enterprise Resource Planning
   5. E-Commerce
   6. Marketing and Sales
   7. Vertical Market Software
   8. CAD
   9. Multimedia and Entertainment Software
   10. Image Editing
       1. Photoshop
       2. Gimp
   11. Video Editing
   12. Cloud Computing
       1. AWS
       2. Azure
       3. Linux VPS
   13. Digital Audio
       1. Audacity
   14. Gaming Software
       1. Swift
   15. Educational and Reference software
   16. Drawing/ART Software
   17. Managing your Software

a. Getting Software

* + 1. App stores
    2. Freeware
    3. Betas

1. Software Licensing
   * + - 1. Eula
2. Borrowing Software
3. Upgrading
4. Bloatware
5. Recovery

# Class 13

1. Operating Systems
   1. Manages hardware
   2. Path for applications to reach CPU
   3. Tasks
2. User Interface
   1. CLI
   2. GUI
3. Utility Programs
4. Real-Time/Embedded OS
   1. Microsoft
   2. Lynx
   3. QNX
5. Network Operating systems
6. UNIX
7. Mobile Devices
   1. Phones
   2. Tablets
8. Personal Computers
   1. Windows
   2. OSX
   3. Linux
   4. Upgrading your OS
   5. Dual booting
   6. The Cloud
   7. Virtual Operating Systems
9. What the Operating System Does
   1. User Interface
   2. Processor management
      1. Interrupt
      2. Preemptive multitasking
   3. Managing of storage
   4. Hardware and device management

# Class 14

1. Linux
2. Upgrading your OS
3. Dual booting
4. The Cloud
5. Virtual Operating Systems
6. What the Operating System Does
7. User Interface
8. Processor management
   1. Interrupt
   2. Preemptive multitasking
9. Managing of storage
10. Hardware and device management
11. The boot process
    1. BIOS
    2. POST
    3. Loading the OS
    4. Running configuration programs
    5. Boot Errors
12. Operating Systems Interface
    1. Windows
    2. OSX
    3. Linux
13. File Management
14. Utility Programs
    1. File Compression
    2. Disk Cleanup
    3. Error Checking
    4. Task/Resource Monitor
    5. Disk Defragmenter
    6. Shadow Copies
    7. Accessibility

# Class 15

1. Processor management
   1. Interrupt
   2. Preemptive multitasking
2. Managing of storage
3. Hardware and device management
4. The boot process
   1. BIOS
   2. POST
   3. Loading the OS
   4. Running configuration programs
   5. Boot Errors
5. Operating Systems Interface
   1. Windows
   2. OSX
   3. Linux
6. File Management
7. Utility Programs
   1. File Compression
   2. Disk Cleanup
   3. Error Checking
   4. Task/Resource Monitor
   5. Disk Defragmenter
   6. Shadow Copies
   7. Accessibility

# Class 16

1. What are ethics
2. Ethical Systems
   1. Relativism
   2. Divine Command Theory
   3. Utilitarianism
   4. Virtue Ethics
   5. Deontology (Duty Based)
3. Unethical vs Amoral Behavior
4. Personal Ethics
   1. Define your personal ethics exercise
5. Personal Ethics and Work
6. Ethics in computing
   1. Social Justice
   2. Intellectual Property
   3. Privacy
   4. Property Rights
   5. Electronic Communication Access
   6. Computer Abuse

# Class 17

The Ideal Computer

Moore’s Law

Additional Capacity

Memory Increase at about 60% each year

Hard Drives increase at about 50% each year

What Kind of user are you?

Types of Devices

Choices

Desktop vs. Laptop

Time consideration

When is it time to upgrade

When should you purchase a new computer

Evaluating CPU

How the CPU Functions

Control Unit

Arithmetic Logic Unit

Machine Cycle

Fetch

Decode

Execute

Store

What makes a CPU Different from another

Clock Speed

Cores

Cache Memory

Cache

Level 1 - Built in - closest fastest but smaller

Level 2 - Built in - farther away so slower but larger storage

Level 3 - Built in - farthest but largest

Benchmarks

Is my CPU sufficient

Resource Monitor/Task Manager

CPU Cooling Sidebar

Evaluating Memory

ROM

RAM

Evaluating Storage

Drives

Hard

Solid State

Optical

RAID

Evaluating Video

Evaluating Audio

# Class 18

Assignment 6

What makes a CPU Different from another

Clock Speed

Cores

Cache Memory

Cache

Level 1 - Built in - closest fastest but smaller

Level 2 - Built in - farther away so slower but larger storage

Level 3 - Built in - farthest but largest

Benchmarks

Is my CPU sufficient

Resource Monitor/Task Manager

CPU Cooling Sidebar

Evaluating Memory

What is RAM

Why use RAM

Different Types of RAM

SuperFetch

Adding RAM

Evaluating Storage

Drives

Mechanical

How data is stored

Access/Seek Time + Latency

Solid State

Access Time

Hybrid Drives

Fusion Drives

Optical

How do they work

Pits

Nonpits/Lands

BluRay

Should you have an optical drive

Dig Deeper how hard drives work

How much storage do I need

RAID

Zero - Stripe

One - Mirror

Evaluating Other Subsystems

Media Subsystems

Video Cards

What is a video card

How much memory does it need

How video cards work

Chaining Video Cards

SLI/CrossFire X

3D/Virtual Reality

USB 3.1

ThunderBolt

Sound Card

What does a Sound Card do

Surround Sound

MIDI

Evaluating System Reliablility

Backing up

Windows File History

Apple Time Machine

Checking Error codes

Time to upgrade

Recycling old computer

Donating

# Class 19

Evaluating Other Subsystems

Media Subsystems

Video Cards

What is a video card

How much memory does it need

How video cards work

Chaining Video Cards

SLI/CrossFire X

3D/Virtual Reality

USB 3.1

ThunderBolt

Sound Card

What does a Sound Card do

Surround Sound

MIDI

Evaluating System Reliability

Backing up

Windows File History

Apple Time Machine

Checking Error codes

Time to upgrade

Recycling old computer

Donating

Chapter 8

1. Digital Convergence
2. Mobile devices
   1. Smart Phones
      1. Features
      2. Other phones
      3. Comparisons to computers
      4. Components
         1. Processors
         2. OS
         3. Memory
         4. Input/output
         5. Software
   2. How cell phones work
   3. Voip
   4. GPS
   5. Digital Defined
   6. Digital Media
      1. Publishing
         1. E Books
            1. Amazon Kindle
            2. Barnes and Noble Nook
            3. Apple Ibooks
         2. Self Publishing
            1. Amazon
            2. Barnes and Noble
            3. Others
         3. Crowdfunding
            1. Kickstarter
         4. Examples
            1. Andy Weir
            2. Others
      2. Music
         1. Access to tools
            1. Garage Band and other cheap tools
            2. Mobile Tools

Ipad

Gorillaz The Fall

* + - 1. Exposure
         1. Social Media
         2. Soundcloud
      2. Funding
         1. Indiegogo
      3. Examples
    1. Photography
       1. Online Portfolios
       2. Exposure through social media
          1. Instagram
       3. Photo Sharing
       4. Selling photos online
       5. Examples
    2. Video
       1. Access to tools
       2. Cheap video devices
          1. Go Pro
          2. 360 Cameras

RICOH Theta

* + - * 1. Drones
      1. Youtube Stars
      2. Streaming
         1. Twitch
         2. Youtube Live

# Class 20

1. Threats to your digital assets
   1. Definition
   2. Who Perpetrates
   3. What kinds of crime are common
      1. Impersonation scams
      2. Nonauction/delivery
      3. Advance fee fraud
      4. Identity Theft
2. Understanding Hackers
   1. Different Kinds
      1. White Hat
      2. Black Hat
      3. Gray Hat
      4. Blue Hat
      5. Script Kiddie
   2. Hacking Tools and Attack Types
      1. Packet analyzer
      2. Key Logger
      3. Trojan Horses/Rootkits
      4. Denial of service attacks
3. How do they gain access
   1. Direct
   2. Through Internet
      1. Logical Ports
4. Computer Viruses
   1. What is a virus
   2. How do you catch a computer virus
   3. How can you tell if you are infected
   4. Types of viruses
      1. Boot-Sector
      2. Logic/Time bombs
      3. Worms
      4. Script and Macro Viruses
      5. E-mail viruses
      6. Encryption viruses
      7. Additional
         1. Polymorphic
         2. Multipartite
         3. Stealth
5. Online Annoyances and Social Engineering
   1. Malware
      1. Adware
      2. Spyware
      3. Spam
      4. Cookies
   2. Work Monitoring
   3. Social Engineering
      1. Pretexting
   4. Phishing/Pharming
      1. Spear Phishing
   5. Scareware
6. Protecting your Digital Property
7. Restricting Access
   1. Firewall
      1. Hardware or Software
      2. How do firewalls work
         1. Packet filtering
         2. Logical port blocking
         3. Network address translation
   2. Testing security
   3. Antivirus Software
      1. Computer
      2. Mobile Devices
   4. Software updates
   5. Password management
   6. Biometric tools
   7. Anonymous web surfing

# Class 21

1. How do they gain access
   1. Direct
   2. Through Internet
      1. Logical Ports
2. Computer Viruses
   1. What is a virus
   2. How do you catch a computer virus
   3. How can you tell if you are infected
   4. Types of viruses
      1. Boot-Sector
      2. Logic/Time bombs
      3. Worms
      4. Script and Macro Viruses
      5. E-mail viruses
      6. Encryption viruses
      7. Additional
         1. Polymorphic
         2. Multipartite
         3. Stealth
   5. Antivirus Software
3. Online Annoyances and Social Engineering
   1. Malware
      1. Adware
      2. Spyware
      3. Spam
      4. Cookies
   2. Work Monitoring
   3. Social Engineering
      1. Pretexting
   4. Phishing/Pharming
      1. Spear Phishing
   5. Scareware
   6. Malware Software
4. Protecting your Digital Property
5. Restricting Access
   1. Firewall
      1. Hardware or Software
      2. How do firewalls work
         1. Packet filtering
         2. Logical port blocking
         3. Network address translation
      3. Firewall Software
         1. Built Into OS
         2. Build your own
         3. By a hardware firewall
   2. Testing security
   3. Antivirus Software
      1. Computer
      2. Mobile Devices
   4. Software updates
   5. Password management
   6. Biometric tools
   7. Anonymous web surfing
   8. Multi factor Authentication

# Class 22

1. Networks
2. Nodes
3. Benefits of a network
   1. Communication
   2. Sharing of resources
4. Disadvantages to setting up networks
5. Speed of data
   1. Bandwidth/Data transfer rate
   2. Throughput
6. Network Architectures
   1. Personal Area Networks
   2. Local Area Networks
   3. Home Area Networks
   4. Metropolitan area networks
   5. Wide Area Networks
7. Levels of administration
   1. Client/server
   2. Peer to peer
8. Wearable Technology
9. Standards
   1. IEEE
   2. Ethernet 802.3
   3. Wireless 802.11
10. Transmission Media
    1. Twisted Pair
       1. UTP
          1. Categories
       2. STP
    2. Coaxial Cable
       1. HFC
    3. Fiber Optic
11. Network Hardware
    1. Network Adapters
    2. Routers
    3. Hubs
    4. Switches
12. Internet of Things
13. Connecting to the Internet
    1. Types of Broadband
       1. Cable
       2. DSL
       3. Fiber
       4. Satellite
       5. Mobile Broadband
    2. Dialup
14. Your Home Network
15. Smart Homes
16. Managing and securing Wireless Networks
17. Course Wrap up

# Class 25

* 1. Problems caused
     1. Packet analyzer
     2. Key Logger
  2. Trojan Horses/Rootkits
  3. Denial of service attacks

1. How do they gain access?
   1. Direct
   2. Through Internet
2. Restricting Access
   1. Firewall
      1. Hardware or Software
      2. How do firewalls work
         1. Packet filtering
         2. Logical port blocking
         3. Network address translation
   2. Testing security
   3. Password management
   4. Anonymous web surfing
   5. Biometric tools

# Class 26

1. Password management
2. Anonymous web surfing
3. Biometric tools
4. Managing online Annoyances
   1. Malware
      1. Adware
      2. Spyware
   2. Spam
   3. Cookies
5. Keeping your data safe
   1. Protecting your personal information
   2. Backing up data
6. Social engineering
   1. What is it?
   2. How does it work?
7. Phishing and Pharming
8. Scareware
9. Protecting physical computing assets
   1. Environmental Factors
   2. Power Surges
   3. Deterring Theft
      1. Alarms
      2. Software alerts and data wipes
      3. Computer Security Checklist

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