





The guts of an IBM desktop PC circa 1995: cables carrying electrical current and those carrying data are both visible

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CIT-115 Master sequence | Spring 2020

Instructor Eric Darsow's implementation of this course sequence is offered at CCAC's West Hills Center in the Fall of 2019.

Course	Date	Wk.	Sess.	Session description	Module	Info tech objectives	Application fluency objectives
CIT-115	WED 27-JAN- 2020	1	1	Introduction to the course;	<p>Electricity vs. Electronics vs. Computers vs. Robots</p> <p>What makes something a system? Outlining major computer system components</p> <p> CIT-115 Syllabus Spring 2020</p>		
CIT-115	WED 29-JAN- 2020		2	Exploring system component categories			
CIT-115	MON 3-FEB- 2020	2	1	Intro to systems design and diagramming	<p> Content Module: Systems</p>	<p>TR.115.IT.1: Classify devices into the categories of: electrical, electronic, computer, robot and defend the classifications using the definition of each category</p> <p>TR.115.IT.2: Label a system diagram's core components and identify deficiencies in a given system diagram</p> <p>TR.115.IT.3: Design a system diagram for a non-computer system which includes labeled flows between labeled components</p> <p>CCAC.115.LO.1: Identify major motherboard components, characteristics of CPUs, and various types of memory</p>	
CIT-115	WED 5-FEB- 2020		2	Exploring system component categories			

CCAC.115.LT.3: System Unit components and characteristics (motherboard, CPU, data representation, memory, adapter cards, ports, buses, bays, power supply)

CIT-115	MON	3	1	Explore the fundamentals of	Categorizing and assembling	CCAC.115.LO.2: Describe the types of expansion slots and adapter cards, the role of buses in a computer's processing	
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Course	Date	Wk.	Sess.	Session description	Module	Learning Objectives	Application fluency objectives
CIT-115	10-FEB-2020		2	processor units, I/O devices, and more.	computer system components Hardware build stations Content Module: Computer Dissection	speed, and the differences among various input/output ports CCAC.115.LO.3: Explain the characteristics of various input devices (pointing devices, digital cameras, scanners, biometric devices) and output devices (monitors, printers, speakers) CCAC.115.LO.4: Explain the characteristics of various storage devices (magnetic disks, optical disks, removable media, solid state).	Application fluency objectives
	WED 12-FEB-2020			Try your hand at debugging system failures during boot			
CIT-115	MON 17-FEB-2020	4	1		Class branching! Students choose one of two pathways for week 4: Hardware brick finders & dissectors Operating system analysis and comparison Both modules draw on this google sheet Computer and hardware tracker		TR.115.A.1: Create a blank spreadsheet and populate cells with text and numeric data; edit cells; wrap text TR.115.A.2: Use formulas to compute metrics relating to computer hardware specification changes through time
CIT-115	WED 19-FEB-2020		2	Class continued work on the computing power comparison spreadsheet by choosing anchor computer models and researching the specs ▶ Session Audio			
CIT-115	MON 24-FEB-2020	5	1	Session Audio: SP19	Computer timeline creation Computing power timeline		4.E.1:
CIT-115	WED 26-FEB-2020		2	Continue timeline work			
CIT-115	MON 2-MAR-2020	6	1	Began adding content to our skeleton trees and conducted the first round of tree sharing	Operating system explorations Operating Systems Operating systems mini-lab guides Real and Digital File Trees Shared drive of all trees	CCAC.115.LO.5: Describe the functions of an operating system, how they control a network, how they administer security, various utilities, and the features of desktop and server Operating systems CCAC.115.LO.5: Describe the functions of an operating system, how they control a network, how they administer security, various utilities, and the features of desktop and server Operating systems	5.E.1:
CIT-115	WED 4-MAR-2020		2	Finished tree building, forest building, zipping, and began file system detectives			











Shared drive of all trees

CCAC.115.LT.: Operating Systems characteristics (boot process, resource management and sharing, utility programs) and types (stand-alone, network, embedded)

CIT-115	MON 9-MAR-2020	7	1	Begin tree modeling project 4-March Session Audio	Complete mid-term grade cards If you are absent today, please complete and email a grade proposal card to Eric. OS Mini-lab #4: File Type Detectives	COMP.TREE.1: Create a digital model of a real photosynthetic tree by measuring and matching branch complexity and depth COMP.TREE.2: Populate a file tree with directory nodes and leaf nodes structured logically to arrange data elements centered around a common theme (such as hockey or makeup or politics)	
CIT-115	WED		2	Session Audio:			

Course	11-MAR-2020	Wk.	Sess.	Session description	SP19_6-March-19 Module	Info tech objectives	Application fluency objectives
					Search Algorithm Comparison Tree & linear search algorithm files	COMP.TREE.3: Enumerate and describe various use cases for tree-like data structures in operating systems, file systems, and computer science in general	
CIT-115	MON 16-MAR-2020	8	1		Trees: Part 2: Searching and traversing Real and Digital File Trees Shared drive of all trees	COMP.TREES.4: Model tree and list searching algorithms and design an experiment to compare the speed of each respective algorithm COMP.TREES.5: Describe a file system tree in terms of node types, node depth, and structure symmetry	
CIT-115	WED 25-MAR-2020		2	Wrap up tree weeks			
CIT-115	MON 23-MAR-2020	9	1	Initial building of our clip-board databases: designing table schemas	Databases: Designs, features, & use cases Databases Clipboard database project guide		8.E.1:
CIT-115	WED 25-MAR-2020		2	Populating classroom reservation database tables with real data			
CIT-115	MON 30-MAR-2020	10	1	Constructing classroom reservation database in Libre Office Base with HSQL & beginning design of custom database		CCAC.115.LO.8: Describe the advantages of a database approach and their various characteristics (relational, object-oriented, multi-dimensional). CCAC.115.LT.9: Database characteristics (data hierarchy, types of databases, administration)	9.E.1:
CIT-115	WED 1-APR-2020		2	Building custom database in Libre Base			
CIT-115	MON 6-APR-2020						
CIT-115	WED 8-APR-2020						

CIT-115	MON 13-APR-2020	11	1		Computer networks, the Internet, and the World Wide Web (WWW) Networking stations Module: World Wide Web (WWW) Essentials	CCAC.115.LO.10: Discuss the computer hardware needs and solutions for an enterprise, the importance of computer backup, and steps involved with a disaster recovery plan. CCAC.115.LT.12: Enterprise computing technologies (RAID, SANs, blade servers, thin clients, high-availability)	10.E.1:
CIT-115	WED 15-APR-		2				

Course	2020	Wk.	Sess.	Session description	Module	Info tech objectives	Application fluency objectives
						<p>CCAC.115.LO.9: Identify the uses of various programming languages and development tools.</p> <p>CCAC.115.LT.11: Programming languages (low level, procedural, object-oriented, Web page development) and characteristics (development cycle, documentation, control structures)</p> <p>CCAC.115.LO.6: Describe the structure of the Internet, how to access and connect to the Internet, the components of a URL and IP address, types of e-commerce, and how various services work.</p> <p>CCAC.115.LO.7: Describe various network communications standards, communication media, communication devices, and network architectures (client/server, peer-to-peer).</p> <p>CCAC.115.LT.8: Network design (LANs and WANs, architectures, topologies) and Communications characteristics (standards, devices, media)</p>	
CIT-115	MON 20-APR-2020	12	1	Wrap up networking stations	<p>Computer networks, the Internet, and the World Wide Web (WWW)</p> <p> Networking stations</p> <p>Securing digital ecosystems: Fundamentals of security: access, storage, transmission</p>	<p>CCAC.115.LO.11: Describe types of malware, techniques to prevent unauthorized access, methods of encryption, and risks & safeguards associated with wireless communications</p> <p>CCAC.115.LT.10: . Computer Security (Internet and network attacks, theft, failures, backups, privacy) and health concerns</p>	11.E.1:
CIT-115	WED 22-APR-2020		2	Transition to security topics before turkey break	<p> Encrypted hide-and-seek </p> <p> Hasher and TEA algos </p> <p> Hashing worksheet </p> <p> Hashing worksheet </p>		
CIT-115	MON 27-APR-2020	13	1		<p>Security and Languages</p> <p> Computer languages</p>	<p>CCAC.115.LO.11: Describe types of malware, techniques to prevent unauthorized access, methods of encryption, and risks & safeguards associated with wireless communications</p> <p>CCAC.115.LT.10: . Computer Security (Internet and network attacks, theft, failures, backups, privacy) and health concerns</p>	12.E.1:
CIT-115	WED 29-APR-2020		2				

CIT-115	WED 6-MAY-2020	14	2	Final session! Please come prepared to complete your final grade proposal card	<p>Culminating project design & implementation</p> <p>Sharing our culminating projects</p> <p> CIT/DAT Course planning survey</p>	<p>13.L.1:</p> <p>13.L.2:</p>	13.E.1:
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Course	Date	Wk.	Sess.	Session description	Module	Info tech objectives	Application fluency objectives
				<input checked="" type="checkbox"/> Final session checklist			

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