














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





# CIT-115 Master sequence | spring 2019

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

Course	Date	Wk.	Sess.	Session description	Module	Info tech objectives	Application fluency objectives
CIT-115	MON 28-JAN-19	1	1	Introduction to the course; syllabus; what is a computer?	<b>Electricity vs. Electronics vs. Computers vs. Robots</b>  <b>What makes something a system? Outlining major computer system components</b>  Wk. 1 Module: Systems	<b>TR.115.IT.1:</b> Classify devices into the categories of: electrical, electronic, computer, robot and defend the classifications using the definition of each category  <b>TR.115.IT.2:</b> Label a system diagram's core components and identify deficiencies in a given system diagram  <b>TR.115.IT.3:</b> Design a system diagram for a non-computer system which includes labeled flows between labeled components  <b>CCAC.115.LO.1:</b> Identify major motherboard components, characteristics of CPUs, and various types of memory  <b>CCAC.115.IT.3:</b> System Unit components and characteristics (motherboard, CPU, data representation, memory, adapter cards, ports, buses, bays, power supply)	
CIT-115	WED 30-JAN-19		2	Exploring system component categories			
CIT-115	MON 4-FEB-19	2	1		<b>Categorizing and assembling computer system components</b>  Week 2: Computer Dissection	<b>CCAC.115.LO.2:</b> Describe the types of expansion slots and adapter cards, the role of buses in a computer's processing speed, and the differences among various input/output ports  <b>CCAC.115.LO.3:</b> Explain the characteristics of various input devices (pointing devices, digital cameras, scanners, biometric devices) and output devices (monitors, printers, speakers)	

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CIT-115	WED 6-FEB-19		2			<b>CCAC.115.LO.4:</b> Explain the characteristics of various storage devices (magnetic disks, optical disks, removable media, solid state).	
CIT-115	MON 11-FEB-19	3	1	Exploring computer spec changes through time and designing a spreadsheet to answer the questions: What, exactly, about computers has changed since 1983? What Has stayed the same? What are the bottlenecks in our benchmark years?  <a href="#">Session audio recording</a> (Download by right clicking and selecting: "save link as...")	<b>Change and remain project</b>  <a href="#">Week 3 Module: Change and remain</a> <b>Exercise 1: Computer characteristic comparison</b> <a href="#">War Games (1983)</a>  and <a href="#">Jurassic Park (1993)</a>  <b>Exercise 2: Traffic bottle neck diagramming</b> <b>Exercise 3: Organizing data in spreadsheets</b> <b>Exercise 4: Moore's law</b> 	<b>CCAC.115.LT.1:</b> Categories of computers (personal, mobile, servers, mainframes, supercomputers, embedded) and examples of computer usage (SOHO, mobile, power user, enterprise) <b>CCAC.115.LT.4:</b> Input devices and characteristics (keyboard, pointing devices, voice input, digital cameras, scanners, game controllers) <b>CCAC.115.LT.5:</b> Output devices and characteristics (displays, printers, audio) <b>CCAC.115.LT.6:</b> Storage devices and characteristics (magnetic disks, optical disks, static-state, removable)	<b>TR.115.A.1:</b> Create a blank spreadsheet and populate cells with text and numeric data; edit cells; wrap text <b>TR.115.A.2:</b> Use formulas to compute metrics relating to computer hardware specification changes through time
CIT-115	WED 13-FEB-19		2	Class continued work on the computing power comparison spreadsheet by choosing anchor computer models and researching the specs   <a href="#">Session Audio</a>	<b>Exercise 5: Computer characteristic comparison</b> <a href="#">Mission Impossible: Rogue Nation (2015)</a>  and <a href="#">Interstellar (~2060)</a>  <b>Exercise 6: Spec change research and spreadsheet documentation</b>		
CIT-115	MON 18-FEB-19	4	1	 <a href="#">Feb 18 Session Audio</a>	<b>Computer timeline creation</b>		<b>4.E.1:</b>
CIT-115	WED 20-FEB-19		2		 <a href="#">Computing power timeline</a>		
CIT-115	MON 25-FEB-19	5	1		<b>File System Trees: Modeling the digital from the natural</b> 	<b>CCAC.115.LO.5:</b> 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  <b>CCAC.115.LO.5:</b> 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	<b>5.E.1:</b>

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						<b>CCAC.115.LT.:</b> Operating Systems characteristics (boot process, resource management and sharing, utility programs) and types (stand-alone, network, embedded)	
CIT-115	WED 27-FEB-19		2				
CIT-115	MON 4-MAR-19		1		<b>Computer networks, the Internet, and the World Wide Web (WWW)</b>	<b>CCAC.115.LO.6:</b> 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.	
CIT-115	WED 6-MAR-19	6	2			<b>CCAC.115.LO.7:</b> Describe various network communications standards, communication media, communication devices, and network architectures (client/server, peer-to-peer).  <b>CCAC.115.LT.8:</b> Network design (LANs and WANs, architectures, topologies) and Communications characteristics (standards, devices, media)	
CIT-115	MON 11-MAR-19		1		<b>Distributing content on the World Wide Web: Building your very own web page from scratch</b>	<b>CCAC.115.LO.6:</b> 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.	<b>7.E.1:</b>
CIT-115	WED 13-MAR-19	7	2				
CIT-115	MON 18-MAR-19		1		<b>Databases: Designs, features, &amp; use cases</b>	<b>CCAC.115.LO.8:</b> Describe the advantages of a database approach and their various characteristics (relational, object-oriented, multi-dimensional).	<b>8.E.1:</b>
CIT-115	WED 20-MAR-19	8	2			<b>CCAC.115.LT.9:</b> Database characteristics (data hierarchy, types of databases, administration)	
CIT-115	MON 25-MAR-19		1		<b>Programming Languages: Assembly, interpreted, compiled, strong and weak typing</b>	<b>CCAC.115.LO.9:</b> Identify the uses of various programming languages and development tools.	<b>9.E.1:</b>
CIT-115	WED 27-MAR-19	9	2			<b>CCAC.115.LT.11:</b> Programming languages (low level, procedural, object-oriented, Web page development) and characteristics (development cycle, documentation, control structures)	
CIT-115	MON 1-APR-19	10	1		<b>Implementing small and medium-scale computer systems in business environments</b>	<b>CCAC.115.LO.10:</b> Discuss the computer hardware needs and solutions for an enterprise, the importance of computer backup, and steps involved with a disaster recovery plan.	<b>10.E.1:</b>

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CIT-115	WED 3-APR-19		2		 <b>Securing digital ecosystems: Fundamentals of security: access, storage, transmission</b>	CCAC.115.LT.12: Enterprise computing technologies (RAID, SANs, blade servers, thin clients, high-availability)	
CIT-115	MON 8-APR-19	11	1			CCAC.115.LO.11: Describe types of malware, techniques to prevent unauthorized access, methods of encryption, and risks & safeguards associated with wireless communications	11.E.1:
CIT-115	WED 10-APR-19		2			CCAC.115.LT.10: . Computer Security (Internet and network attacks, theft, failures, backups, privacy) and health concerns	
CIT-115	MON 15-APR-19		-				
CIT-115	WED 17-APR-19		-				
CIT-115	MON 22-APR-19	12	1		<b>Security through mathematics: Encryption primer and project</b> 	CCAC.115.LO.11: Describe types of malware, techniques to prevent unauthorized access, methods of encryption, and risks & safeguards associated with wireless communications	12.E.1:
CIT-115	WED 24-APR-19		2			CCAC.115.LT.10: . Computer Security (Internet and network attacks, theft, failures, backups, privacy) and health concerns	
CIT-115	MON 29-APR-19	13	1		<b>Culminating project design &amp; implementation</b> 	13.L.1:	13.E.1:
CIT-115	WED 1-MAY-19		2			13.L.2:	
CIT-115	WED 8-MAY-19	14	1	* Bring fully-baked projects to share. * Same time and place as normal Wednesday class	<b>Sharing our culminating projects</b>  Final session checklist	14.L.1:	