



Title:	<b>Electronic Systems Technician, Level 4</b>
Edition:	<b>4</b>
Publication Date:	<b>2021</b>
Additional Instructor Requirement(s):	<b>None</b>
Prerequisite(s):	<b>None</b>
Previous Edition Expiration Date:	<b>Levels 1-4, 3<sup>rd</sup> Edition, will expire 06/30/2025</b>



Book Module Number	Module Name	3 <sup>rd</sup> Edition Mod ID #	4 <sup>th</sup> Edition Mod ID #	4 <sup>th</sup> Edition Hours	3 <sup>rd</sup> Edition Hours	Equivalent Registry Module(s)	Performance Profile	Comments
1	Audio Systems	33401-12	<b>33401</b>	<b>30</b>	30	33401-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Audio, Video, and Data</b></li> <li>Added info on Bluetooth, Wi-Fi®, and digital voice assistants (Echo, Alexa, etc.), wireless hardware, and software interfaces.</li> </ul>
	Video Systems	33402-12	<b>33402</b>	<b>40</b>	40	33402-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Audio, Video, and Data path</b></li> <li>Added sections on Blue-ray, Wi-Fi®, LED, HDMI, DisplayPort, VR/AR, 4k and 8k television technologies, screen mirroring, and compression technology. Updated info on ATSC to reflect transition to high-definition digital video.</li> </ul>
3	Broadband	33403-12	<b>33403</b>	<b>25</b>	40	33403-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Audio, Video, and Data path</b></li> <li>New title; Added more info on wireless protocols and broadband delivery technologies, including DSL, coaxial cable, fiber optic cable, mobile broadband, fixed wireless, satellite, and P2P wireless. Updated info on satellite broadband technologies and network topologies.</li> </ul>
4	Media Management Systems	33404-12	<b>33404</b>	<b>25</b>	20	33404-12	No	<ul style="list-style-type: none"> <li><b>Interim Credential – Audio, Video, and Data path</b></li> <li>Add info on smart devices, cloud-based storage and video streaming, display monitors HDMI and DisplayPort connectors, Wi-Fi®, Bluetooth, and broadband.</li> </ul>
5	Telecommunications Systems	33405-12	<b>33405</b>	<b>20</b>	20	33405-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Audio, Video, and Data path</b></li> <li>Added info on modems and gateways, setting up a basic wireless router, and VoIP with IoT.</li> </ul>
6	Residential and Commercial Networks	33406-12	<b>33406</b>	<b>15</b>	25	33406-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Audio, Video, and Data path</b></li> <li>New title; expanded info regarding IoT in integrated systems, USB technologies, and a variety of new connectors. Added info on Wi-Fi® (IEEE 802.11) standards, network topologies, and Power over Ethernet. Info added on smart residential and commercial technologies, including application types and UI design.</li> </ul>
7	Intrusion Detection Systems	33407-12	<b>33407</b>	<b>30</b>	30	33407-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Life Safety and Security path</b></li> <li>Added info on both wired and wireless interfaces to intrusion detection systems. Updated several sections to including info on Wi-Fi® and Bluetooth technologies, info on smart residential and commercial security systems, and new info on the use of mesh networks with intrusion detection systems. Also revised NEC® codes to current standards.</li> </ul>
8	Fire Alarm Systems	33408-12	<b>33408</b>	<b>40</b>	40	33408-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Life Safety and Security path</b></li> <li>Updated all info, NEC® pathway classes, and codes to the current version of the NEC®, NFPA 72®, NFPA 101®, and NFPA 1 standards. Updated all smoke, fire detection, and alarm system hardware.</li> </ul>
9	Nurse Call and Signaling Systems	33409-12	<b>33409</b>	<b>15</b>	15	33409-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Life Safety and Security path</b></li> <li>New title. Updated info on the use of Wi-Fi® based systems, smartphone interfaces, and references to NEC® codes. Added new info on LCD- and touchscreen-based nurse call systems.</li> </ul>
10	Closed Circuit Television (CCTV)	33410-12	<b>33410</b>	<b>30</b>	30	33410-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Life Safety and Security path</b></li> <li>New title; updated info on NVRs, cloud-based storage and retrieval systems, cloud services, internet-based surveillance systems, smart CCTV technologies, Wi-Fi® based systems, PoE systems, Bluetooth devices and CCTV analytics.</li> </ul>
11	Access Control Systems	33411-12	<b>33411</b>	<b>35</b>	35	33411-12	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Life Safety and Security path</b></li> <li>Updated access control technologies, including the use of smart cards, smartphones, IoT-based systems, and new biometric readers, magnetic strip and Weigand wire cards. Added info on the way access control systems are interfacing with wireless and IoT devices. Updated biometric readers section to include voice recognition. ADA requirements addressed</li> </ul>
12	EST and the Internet of Things (IoT)	33412-12	<b>33412</b>	<b>10</b>	---	---	Yes	<ul style="list-style-type: none"> <li><b>Interim Credential – Audio, Video, and Data path</b></li> <li>New module focuses on the trends, protocols, hardware, applications, and related opportunities for ESTs in IoT-related fields and industries.</li> </ul>
		Audio, Video & Data Hours		<b>165</b>	---			
		Life Safety & Security Hours		<b>150</b>	---			
		<b>Total Hours</b>		<b>315</b>	325			

#### Definitions:

**Lock-Down Module:** A module adopted “as-is” from another craft or an earlier edition of the same curriculum.

**Equivalent Module:** A module whose learning and performance outcomes match those of the newer editions and is therefore considered ‘equivalent’ in NCCER’s Registry.

**Interim Credential:** A module, or group of modules, whose learning and performance outcomes demonstrates competence of specific components in an occupational area and results in a unique credential in the Registry.

#### Color Highlight Legend:

- = No Performance Test
- = Lock-Down Module
- = Equivalent Module
- = Deleted