

Preparing for CTS-I Certification with InfoComm Academy

Thank you for your interest in InfoComm's CTS-I certification. InfoComm certifications are based on the work of AV professionals. Each question in the exam is tied to a specific job task. The job tasks covered on the CTS-I exam, listed on the following page, serves as the structure for this resource. The purpose of this document is to help you identify what InfoComm Academy content is available pertaining to the job tasks for which you need training.

Your Certification Preparation Strategy

Prioritize your needs and create a customized preparation strategy.

1. Look at the exam content online on the next page. Each task shows the percentage of questions appearing on the exam in that area.
2. Self-evaluate given each task.
 - Certain that you have mastery of the task at the CTS-I level? Move to the next task in the domain.
 - Not sure what the task is about or whether you need review? Click on the task in the outline.

Use the [Certification Preparation Worksheet](#) to track the study resources you identify as the ones you need as you go through the content outline. Printing the worksheet may help make it easier for you to track study resources as you go through the job tasks.

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Total:	100

Certification Preparation Worksheet

Tally the resources that help you meet your preparation priority areas.

InfoComm Academy Resources	I should learn more	I need a refresher
InfoComm Publications / Documents		
<i>Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry</i> (more) Free online test		
<i>AV Installation Handbook, Second Edition: The Best Practices for Quality Audiovisual Systems</i> (more)		
AV Setup Guide for Events, Meetings, Conferences and Classrooms (more)		
Audiovisual Systems Commissioning Tests Checklist		
AV Math: Aspect Ratio		
AV Math: Throw Distance		
InfoComm Academy Glossary		
InfoComm Courses		
INS201 <i>Installation Online</i> (more)		
INS212 <i>Installation Technician</i> (more)		
INS311 <i>Lead Installation Technician</i> (more)		
GEN103 <i>Audio-Video and Control System Networking Online</i> (more) Pre-test		
PTS101 <i>Principles of Technical Support Online</i> (more)		
AV Installation Assessment Tests (free)		
Cabling Handling Assessment		
Cable Termination Assessment		
Mounting Assessment		
Rack Building Assessment		
OnDemand / Webinar Videos (free)		
Applying Heat Shrink Tubing		
AV Equipment Rack Dressing Techniques		
Building a Snout		
Calculating Conduit Capacity		
Improving AV Project Flow		
Linear Compression Termination		
Terminating a Cat 5e Cable		
Terminating Series 59 Coax with a BNC Connector		
Using a Multimeter		
CTS Study Group: Successful Test Taking Strategies Webinar		

CTS-I Domains and Tasks

Domain A: Conducting Pre-Installation Activities

Task 1: Review Audiovisual Project Documentation

4 Questions

Using your knowledge of drawings, drawing symbols and scales, can you interpret measurements, and read blueprints?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition* (or First Edition)
- *INS201 Installation Online*
- *INS212 Installation Technician*

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Task 2: Conduct Technical Site Survey

4 Questions

Can you identify site obstacles and electrical components, locations of mounting points, communicate your observations to project managers through documentation, and arrange for access to the job site?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition* (or First Edition)
- *INS201 Installation Online*
- *INS212 Installation Technician*

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Task 3: Prepare for Audiovisual Installation

4 Questions

Using your knowledge of AV equipment and cabling, local codes, safety guidelines and project management skills, can you prepare for an AV installation project?

I should learn more I need a refresher I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*
- [Improving AV Project Flow](#) OnDemand

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Task 4: Evaluate Overall Facility Conditions

4 Questions

Can you evaluate overall facility conditions by using your knowledge of site logistics, measuring distances, calculating weight capacities and visual-spatial relationships?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS201 Installation Online*
- *INS311 Lead Installation Technician*

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Task 5: Maintain Tools and Equipment

3 Questions

Using your knowledge of equipment testing protocols, cutting tools, grounding and calibration of equipment, can you recognize defective equipment?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*

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Task 6: Prepare Site for Installation

4 Questions

Can you prepare a site installation by identifying hazards and taking safety measures? Can you mark installation locations for equipment and services? Can you measure distances, and use your knowledge of general construction principles?

I must learn more I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*

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Domain B: Conducting Site Rough-In/First-Fix

Task 1: Deinstallation of Existing Equipment/Cabling

4 Questions

Using your knowledge of electrical power, safety regulations, local disposal regulations, and removal of equipment cabling, can you select equipment that should be removed? Can you drill holes, paint and cut drywall and plaster board?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*

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Task 2: Pull Cable

4 Questions

Are you able to interpret drawings, measure diameters, lengths and volumes? Can you climb ladders, cut and label cables? Can you calculate conduit capacity, group cables together and determine cable routes and pathways? Can you install cable supports, mark spools, and drums and identify cable paths by signal types?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS201 Installation Online*
- *INS212 Installation Technician*
- [Building a Snout](#) OnDemand
- [Calculating Conduit Capacity](#) OnDemand
- AV Installation Test: [Cable Handling](#)

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Task 3: Mount Substructure

4 Questions

Using your skills in cutting, drilling and measuring distance, can you locate mounting points, and attach substructures? Can you test mounting substructures, install anchors, and use powder-actuated tools? Can you establish safety zones and be aware of safe working loads and margins?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- AV Installation Test: [Mounting](#)

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Domain C: Installing Audiovisual Systems

Task 1: Conduct Off-site Fabrication

3 Questions

Can you create material lists for off-site fabricated items? Can you use basic woodworking techniques, punch tools, select proper taps and dies? Can you assemble fabricated items?

I should learn more I need a refresher I mastered this task

Recommended study:

- At this time, InfoComm does not have course content for this task.

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Task 2: Prepare Audiovisual Rack

4 Questions

Using your knowledge of project documentation and drawings, can you document serial numbers of equipment? Can you populate audiovisual equipment racks and install rack infrastructures (lacing, power, fans, peripherals)? Can you measure rack units and interpret rack elevations?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- *INS311 Lead Installation Technician*
- *INS201 Installation Online*
- AV Installation Test: [Rack Building](#)

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Task 3: Wire the Audiovisual Equipment Rack

4 Questions

Using skills in soldering, dressing and cutting wire and applying heat shrink, can you create service loops, and terminate various cables? Using your knowledge of cable types and measuring cable length, can you apply and select appropriate tie wraps? Can you properly separate cables based on signal type, test cable and determine cable dressing strategies? Can you document changes and test rack loaded components? Can you set up a workstation with a heat gun, terminating supplies, etc?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- *INS311 Lead Installation Technician*
- *INS201 Installation Online*
- AV Installation Test: [Cable Termination](#)
- [AV Equipment Rack Dressing Techniques](#) OnDemand

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Task 4: Distribute Audiovisual Equipment

3 Questions

Using your skills in reading and written communications, can you obtain delivery confirmations? Can you use proper loading techniques to avoid equipment damage? Can you apply safe bending and lifting techniques and avoid hazards? Can you interpret equipment manifests and delivery schedules?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *AV Setup Guide for Events, Meetings, Conferences and Classrooms*

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Task 5: Mount Audiovisual Equipment

4 Questions

Can you install equipment and mounting brackets? Can you prepare cables for termination and dressing? Can you identify acceptable substructures for specific purposes? Can you connect power to equipment and calculate weight capacities? Can you use cleaning supplies? Can you determine throw distances and safe working loads (safety margins)?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- *INS201 Installation Online*

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Task 6: Terminate Cables

4 Questions

Using your knowledge of personal safety, connectors, signal types, cable types, can you terminate cables? Can you apply the following techniques: soldering, direct connection, crimping, linear compression, compression, insulation displacement? Can you test for continuity, label wires, and prepare cable ends?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- *INS201 Installation Online*
- [Applying Heat Shrink Tubing](#) OnDemand
- [Terminating Cat 5e Cable](#) OnDemand
- [Terminating Series 59 Coax with a BNC Connector](#) OnDemand
- [Linear Compression Termination](#) OnDemand
- AV Installation Test: [Cable Termination](#)

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Task 7: Configure Network Attached Components (ISDN, IP, POTS, etc.)

3 Questions

Using skills in communicating,, can you prepare AV Internet protocol tables, broadband service and configure basic routers? Can you identify routable and unroutable classes of IP addresses? Can you test terminations and connectivity (ping)? Can you identify cable types and classifications, as well as network equipment?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AVIT211 AV/IT Integration for Technical Professionals*
- *GEN103 Audio-Video and Control System Networking Online*

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Task 8: Load Control Programs

3 Questions

Using basic computer skills, can you establish communications with devices and obtain correct versions of software/firmware to upload? Can you obtain manufacturer updates and download firmware updates? Can you select proper cables and verify that codes are loaded and saved?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS311 Lead Installation Technician*

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Task 9: Test the Audiovisual Equipment

4 Questions

Can you perform audiovisual tests and use operational procedures for AV equipment? Can you apply proper test methods and requirements? Can you test device communications, signal paths, RF signal paths, loudspeakers and audio digital signal processors? Can you adjust audio gain structures? Can you compare test results with specifications and perform corrective actions to systems? Can you measure impedance and select appropriate test equipment and supplies?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- *INS311 Lead Installation Technician*
- *INS201 Installation Online*
- [Using a Multimeter](#) OnDemand

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Task 10: Calibrate Audiovisual Equipment

4 Questions

Can you adjust audio gain, adjust microphones for optimal performance and adjust audio digital signal processors? Can you align display equipment to system configurations for optimal performance? Can you set user preferences for equipment? Can you adjust gain structure for video equipment, camera configurations and RF frequencies, as well as adjust for color balance on displays? Can you determine speaker taps? Can you read schematics?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- *INS311 Lead Installation Technician*
- *INS201 Installation Online*

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Domain D: Perform Systems Close Out

Task 1: Demonstrate to client or client's representative that system performs to specifications 4 Questions

Using knowledge of project timelines and troubleshooting techniques, can you generate and resolve deficiency lists to obtain substantial completion sign-offs?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- Audiovisual Systems Commissioning Tests Checklist

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Task 2: Obtain Project Completion Sign Off from Client or Client's Representative 4 Questions

Can you deliver inventory lists, manuals and assets to the client? Can you obtain signoffs on maintenance schedules, and warranty coverages?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- INS311 *Lead Installation Technician*

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Task 3: Provide Training on Equipment Operation 3 Questions

Using knowledge of customer expectations, company policies and procedures and training techniques, can you provide training on equipment operation?

I should learn more I need a refresher I mastered this task

Recommended study:

- PTS101 *Principles of Technical Support Online*

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Domain E: Conducting Ongoing Project Responsibilities

Task 1: Perform Site Clean-up 3 Questions

Using knowledge of cleaning protocols, can you remove debris, and use the appropriate cleaning products for cleaning equipment?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*

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Task 2: Complete Daily Progress Reports

3 Questions

Can you use reporting procedures to document damaged equipment, record man-hours, document project delays and estimate time to project completion?

I should learn more I need a refresher I mastered this task

Recommended study:

- [Improving AV Project Flow](#) OnDemand

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Task 3: Coordinate with Other Contractors

4 Questions

Can you coordinate with other contractors by using your knowledge of construction progress meetings, and scheduling practices? Are you knowledgeable of the responsibilities of various contractors and reporting procedures for discrepancies?

I should learn more I need a refresher I mastered this task

Recommended study:

- *Audiovisual Best Practices: The Design and Integration Process for the AV and Construction Industry*

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Task 4: Conduct Field Engineering

4 Questions

Can you create field mark-ups, and make installation decisions in response to assessments of sites? Can you communicate changes to project managers and others?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS311 Lead Installation Technician*

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Task 5: Repair Audiovisual Systems

3 Questions

Can you troubleshoot system problems, recommend and implement resolutions? Can you test audio and video system components, RF signal paths, loudspeakers, control systems and other system components? Can you test signal paths, measure impedance, calculate signal levels and diagnose signal to noise ratios?

I should learn more I need a refresher I mastered this task

Recommended study:

- *AV Installation Handbook, Second Edition*
- *INS212 Installation Technician*
- *INS311 Lead Installation Technician*

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Task 6: Maintain AV Systems

2 Questions

Using knowledge of maintenance requirements and schedules, can you submit maintenance documentation, perform maintenance activities and perform system/component functionality tests?

I should learn more I need a refresher I mastered this task

Recommended study:

- At this time, InfoComm does not have course content for this task.

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