

# ITSC 127: CATV/DAS

## Foothill College Course Outline of Record

Heading	Value
<b>Units:</b>	0.5
<b>Hours:</b>	7 lecture, 5 laboratory per quarter (12 total per quarter)
<b>Prerequisite:</b>	Completion of recognized sound and communication apprenticeship or equivalent and recent employment as an installer/technician in the sound and communication industry.
<b>Degree &amp; Credit Status:</b>	Degree-Applicable Credit Course
<b>Foothill GE:</b>	Non-GE
<b>Transferable:</b>	None
<b>Grade Type:</b>	Letter Grade (Request for Pass/No Pass)
<b>Repeatability:</b>	Not Repeatable

## Description

Covers the basic structure, cabling, tools, connectors and terminations, hardware, headend equipment and testing of a Closed Antenna Television and Distributed Antenna Systems (CATV/DAS) system.

## Course Objectives

The student will be able to:

- Identify coaxial cable types
- Describe the effects of attenuation over coaxial cable
- Identify tools used in CATV/DAS
- Identify types of connectors
- Describe the installation steps to install a RG6 compression connector
- Describe the installation steps to install a Heliac connector
- Identify CATV/DAS headend equipment

## Course Content

- CATV - Introduction (Lec)
- CATV - History (Lec)
  - CRT
  - Antennas
- CATV - Basic Structure (Lec)
  - Provider
  - Backbone
  - Distribution
- CATV - Cabling (Lec and Lab)
  - Series 59
  - Series 6
  - Series 11
  - Hardline
  - Impedance
  - Attenuation
- CATV - Tools (Lec and Lab)
  - Lopper cutter
  - Crimpers
  - Compression crimpers
  - Coax stripers
  - Coring tool

- CATV - Connectors and Termination (Lab)
  - Screw-on
  - Crimp
  - Compression
- CATV - Distribution Hardware (Lec)
  - Amplifiers
  - Splitters
  - Directional taps
  - Antennas
- CATV - Headend Equipment (Lec)
  - Demodulators
  - Modulators
  - Combiners
- CATV - Testing (Lec and Lab)
  - Loop testing
  - Balancing
  - Field strength meter
  - TV
- CATV - Hands-on Lab (Lab)
  - Install RF connector
  - Install cabling to TVs
  - Test and commission
- DAS - History (Lec)
  - Relation to CATV
  - Coaxial systems
- DAS - Types and Signal Sources (Lec)
  - Signal source
  - Distributed system
- DAS - Installation (Lec and Lab)
  - Cable types
  - Connectors
- DAS - Commissioning and Testing (Lec and Lab)
  - Testing equipment
  - Certification

## Lab Content

- Work individually and in teams with basic tools of the trade, test instruments and tool safety.
- Included will be the installation of sound and/or communication devices/coaxial cable.
- Equipment safety and safe handling practices are reviewed and applied.

## Special Facilities and/or Equipment

- CATV/DAS cabling, connectors, special installation tools, and testing equipment.
- When taught via Foothill Global Access, on-going access to email software and hardware; email address.

## Method(s) of Evaluation

- Results of assessments
- Results of quizzes and tests
- Discussion participation

## Method(s) of Instruction

- Lecture
- Group discussion
- Demonstration
- Lab

## **Representative Text(s) and Other Materials**

None

## **Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments**

A. Reading assignments:

1. Read discussion titled "CATV - Antennas"; follow directions and complete discussion

B. Writing assignments:

1. Complete the discussion topic "CATV - Antennas" by writing down your results and include and whether you would install an antenna or not and why

## **Discipline(s)**

Telecommunication Technology