

ITSC 101: STRUCTURED CABLING ESSENTIALS

Foothill College Course Outline of Record

Heading	Value
Units:	0.5
Hours:	9 lecture, 6 laboratory per quarter (15 total per quarter)
Prerequisite:	Completion of recognized sound and communication apprenticeship or equivalent and recent employment as an installer/technician in the sound and communication industry.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Description

Covers the essentials in structured cabling, including telephony, industry standards, performance, and wiring.

Course Objectives

The student will be able to:

- State the purpose of the TIA/EIA Standards
- Identify the elements of a structured cabling wiring system
- Define the term "permanent link"
- Define the term "channel"
- Explain the "category" system for rating cables, connectors, permanent links and channels
- Explain why twisting a pair reduces its susceptibility to noise pickup
- State the benefit of using a different twist length for each pair in a 4-pair UTP cable
- Terminate a 25 UTP cable
- Terminate a UTP patch panel

Course Content

- Telephony
 - History (Lec)
 - Wiring (Lec)
 - Telephone basics (Lec)
- Structured Cabling
 - Standards (Lec)
 - Performance (Lec)
 - Cables and connectors (Lec)
 - Pathway and spaces (Lec)
 - Grounding and bonding (Lec)
 - Configuring and installing (Lec)
 - Testing (Lec)
- Structured Cabling Lab
 - Cable pulling (Lab)
 - 66 block termination (Lab)
 - 110 block termination (Lab)

- 8P8C modular plug termination (Lab)
- Configuring certified testers (Lab)

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 using shielded and unshielded twisted pair cables.
- Equipment safety and safe handling practices are reviewed and applied.

Special Facilities and/or Equipment

- Cable pulling raceway, 66 termination blocks, 110 termination blocks, 8P8C modular termination and crimp tool, TIA/EIA certified testing equipment.
- When taught via Foothill Global Access, on-going access to email software and hardware; email address.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

- Results of quizzes and tests
- Classroom and laboratory project participation
- Discussion participation

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

- Lecture
- Group discussion
- Demonstration

Representative Text(s) and Other Materials

National Joint Apprenticeship and Training Committee (NJATC). Configuring and Installing Structured Cabling Systems. MD: NJATC Publishers, 2009.

NOTE: This is the standard Sound & Communications textbook/workbook used for this course. Although it may not be within 5 years of the required published date, it is the most current book used when teaching this course. We will adopt the next edition, as it is published.

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

A. Reading assignments:

- Read Configuring and Installing Structured Cabling Systems Chapter 3: Unshielded Twisted Pair Cables

2. Read [Configuring and Installing Structured Cabling Systems](#) Chapter 11: Standards Compliant Cabling Transmission and Test Requirements

B. Writing assignments:

1. Explain how the twisting of pairs reduces the coupling of noise from other pairs

2. Describe the differences between testing a permanent link vs. channel test

Discipline(s)

Telecommunication Technology