

# APSC 111: JOB INFORMATION, SAFETY, TEST INSTRUMENTS, STRUCTURED CABLING, FIBER OPTICS

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	4
Hours:	40 lecture, 40 laboratory per quarter (80 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Northern CA Sound & Communication JATC Apprenticeship Program.
Advisory:	Not open to students with credit in APRT 130.
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

## Student Learning Outcomes

- A successful student will be able to create accurate as-builts.
- A successful student will be able to identify specific industry hand/motorized tools.

## Description

Introduction to the sound and communication industry. Students are exposed to the basic tools of the trade, test instruments, proper care and safety of tools, use of fastening devices and how to tie basic knots. This course will cover the TIA/EIA standards and students apply codeology to cabling systems, connectors, unshielded twisted pair cables and connecting hardware. This course also includes a fiber optic overview of different optical cables, connectors and connection joints. This course teaches students how to properly install, test and certify fiber optical cables.

## Course Objectives

The student will be able to:

- Recognize the industry's importance in construction
- Identify specific industry hand-motorized tools
- Identify safety hazards for construction sites
- Discuss fundamentals of fiber optics

## Course Content

- Industry orientation
  - History of sound and communication
  - Heritage and the Union
- Hand tools

- Electric tools
- Motorized tools
- Communications and general safety
  - On the job safety
  - Cal OSHA and Federal OSHA
- Fiber optics
  - Fundamentals of fiber optics
  - Connections
  - Installation practices of fiber optics

## Lab Content

Work individually and in teams on basic tools of the trade, test instruments and tool safety. Included will be the installation of sound and/or communication devices using shielded, twisted pair cables, SC, ST, and Unicam fiber optic connectors. Equipment safety and safe handling practices are reviewed and applied.

## Special Facilities and/or Equipment

- Audio-visual equipment to include laptop, video projector and screen
- Laboratory with test instruments and hands-on projects
- Computers with internet access
- When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address

## Method(s) of Evaluation

Results of quizzes and tests  
Classroom and laboratory project participation  
Online discussion participation

## Method(s) of Instruction

Lab assignment  
Group discussion  
Demonstration

## Representative Text(s) and Other Materials

National Joint Apprenticeship and Training Committee (NJATC). [Structured Cabling](#). 2009.

National Joint Apprenticeship and Training Committee (NJATC). [FOA Reference Guide to Fiber Optics](#). 2013.

These are the standard Sound & Communications textbooks/workbooks used for this course. Although one or more may not be within 5 years of the required published date, they are the most current books used when teaching this course. We will adopt the next edition of each text, as it is published.

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

- Reading assignments:
  - Structured Cabling textbook NJATC and Premise Cabling textbook FOA/videos - JATC videos on Canvas CMS and reading reference FOA textbook, including overview of premise cabling (chapter 1), terms (chapter 2), copper (chapter 4) and fiber optics (chapter 5)
- Writing assignments:

1. Unshielded Twisted Pair Connecting Hardware - wiring diagram (pair colors/pair numbers)

C. Other:

1. Online videos - videos (created by the JATC) accessed on Canvas CMS include tool types and how they are used, work place of an electrical worker (hazards), electric shock, and fastening devices

2. LadderSafetyTraining.org - Ladder safety training (step ladder-extension ladder), students view online videos, take assessments and earn a certificate from the laddersafetytraining.org website

## **Discipline(s)**

Telecommunication Technology