COURSE PREFIX/NO: **RTV 205**
COURSE TITLE: **Broadcast Electronics**
LEC HRS/WEEK: **3.0**
LAB HRS/WEEK: **0.0**
CREDIT HRS/SEMESTER: **3.0**

Distance Learning Attendance/VA Statement
Textbook Information

COURSE DESCRIPTION

This course covers the electronic principles used in audio and video production equipment, including signal applications, calibration, and troubleshooting.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be competent to perform the following tasks:

- Identify basic electronic components and their functions
- Establish signal flow and power in basic production systems
- Use basic electronic test and video monitoring equipment
- Perform basic soldering and cable making

MINIMAL STANDARDS

Given an audio-mixer (or similar) schematic and parts list, the student will acceptably (according to instructor) identify the following:

- instructor-selected electronic components by symbol and/or schematic reference number
- units or measurement for instructor-selected components
- color code for instructor-selected resistors
- part number by schematic reference number

Given a selection video and/or audio equipment, the student will acceptably (according to instructor) establish functional signal flow, observing appropriate signal levels, impedance, and termination, to standards and guidelines provided by the instructor.

Given a VOM, pulse-cross color monitor, waveform monitor and vectorscope, the student will demonstrate basic familiarity with each, to standards and guidelines provided by the instructor.

Given suitable equipment and materials, the student will demonstrate the ability to establish electrically sound solder joints, to standards and guidelines provided by the instructor.

COURSE REQUIREMENTS
Students are responsible for demonstrating acceptable performance of competencies. Supporting this goal are the following requirements:

Attendance
Students will be bound by the policies stated in the York Technical College Student Handbook. Students must attend 90% of the hours assigned the class for a semester to receive credit for the course.

Academic Honesty
"York Technical College adheres to the South Carolina TECH Student Code, approved by the State Board for Technical and Comprehensive Education on March 13, 1974 (revised last April 25, 1984). Copies of this code are available in the Library and from Student Services. ...Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action."

Departmental Expectations
As in the work place, the student should call the instructor (or designee) in advance of an absence or tardy, if at all possible. If a student misses a test because of illness or emergency, the student will be expected to make up the test at the earliest possible date. Students with unexcused absences during tests will be allowed to make up the test at the discretion of the instructor.

Regular participation in class activities

Completing assignments as specified

EVALUATION STRATEGIES/GRADING
Student proficiency consists of both knowledge and application. Evaluation is based on a combination of objective testing, and specific performance demonstration. The grading scale will be the standard for York Technical College:

Grade Points

A 90 - 100
B 80 - 89
C 70 - 79
D 60 - 69
F 0 - 59

ENTRY LEVEL SKILLS: Minimum program entry requirements

PREREQUISITES: Minimum program entry requirements

CO-REQUISITES: None

Disabilities Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Offices (SR) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.

TOPIC/CONTENT OUTLINE:

(See addendum for details)

A. Introduction to Electronics
- Electron Flow
- Volts, Amps, Ohms and Watts
- AC and DC current
- Signals and Noise
- Transducing
- Circuit Types
- Schematics

B. Video and Audio Equipment
- Signal types: audio and video
- analog vs digital
- waveforms
- amplitude, frequency, phase
- RGB, component, sync, composite, RF
- Establishing signal flow
- cable and connector types
- signal levels
- impedance, termination
- avoiding noise
- Power options
- battery ratings
- AC to DC adapters
- calculating AC power limits

C. Test and Monitoring Equipment
- Using the VOM (Volt-Ohm-Milliammeter)
- Video Monitoring
- Pulse-cross color monitor: setup and monitoring
- Basic waveform monitoring
- Basic vectorscope monitoring

D. Basic Soldering
- Soldering equipment and materials
- Basic soldering procedures
- Soldering/de-soldering components to PC boards
- Joining cables and connectors