

**COURSE PREFIX/NO:** EET 242  
**COURSE TITLE:** Voice/Data/Video Transmissions  
**LEC HRS/WEEK:** 3.0  
**LAB HRS/WEEK:** 0.0  
**CREDIT HRS/SEMESTER:** 3.0

**DL ATTENDANCE/VA STATEMENT**  
**TEXTBOOK INFORMATION**

**COURSE DESCRIPTION:** This course is a study of voice, data, and video transmission over wireless and wireline technologies with a focus on building infrastructure service and applications for high performance network systems.

**COURSE COMPETENCIES:**

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

- Module A— Telecommunication Concepts, Systems, and Networks
  - Describe the basic Telecommunications System
  - Identify Telecommunication Network Components
  - Explain the significance of Fiber Optic Networks
  - Describe the Telecommunication Network and Hierarchy
  - List the equipment in the Telephony and Telecommunication businesses
- Module B— Telephony and Data: Wired and Wireless
  - Describe the structure and functioning of the basic land-line telephony (POTS)
  - Describe the operation of Virtual Private Networks (VPN) as applied to telephony
  - Describe the features and capabilities of Intelligent Networks
  - Explain the need and benefits of Local Number Portability (LNP)
  - Discuss Computer-to-Telephony Integration (CTI) Technologies and their applications
  - Explain Signaling Systems like the SS7
  - Discuss Mobile Radios
  - Explain Cellular Communications operation, GSM, and PCS
- Module C— Data, Video Information, and Broadband Networks
  - Describe the Integrated Services Digital Network (ISDN)
  - Explain the operation of Frame Relay
  - Discuss the ATM and ATM and Frame Relay Internetworking
  - Describe Cable TV and Cable Modem Systems
  - Compare Power Line Technology with other Technologies
  - Explain the various xDSL Technologies
  - Describe Wireless Data Communications (Mobile IP)
  - Discuss the high-speed digital communications of the T Carrier System
  - Explain the working of the SONET system
  - Discuss the Internet, VOIP, and related technologies

**MINIMAL STANDARDS/PERFORMANCE OBJECTIVES:**

- Module A— Telecommunication Concepts, Systems, and Networks
  - Given texts and lectures, the student will describe the structure of the Telecommunication Systems, Networks, and Hierarchy with 80% accuracy.
  - Given texts and lectures, the student will identify and describe different network components with 80% accuracy.
  - Given texts and lectures, the student will describe the basic Fiber Optic Network with 85% accuracy.
  - Given texts and lectures, the student will identify and describe the basic equipment used in Telephony and Telecommunications with 80% accuracy.

#### Module B— Telephony and Data: Wired and Wireless

- Given texts and lectures, the student will describe the operation of POTS with 90% accuracy.
- Given texts and lectures, the student will describe VPN, Intelligent Networks, and LNP with 80% accuracy.
- Given texts and lectures, the student will describe the SONET and its relation with the broadband with 85% accuracy.
- Given texts and lectures, the student will describe CTI Technologies with 90% accuracy.
- Given texts and lectures, the student will describe various Signaling Systems and Mobile Telephony with 80% accuracy.
- Given texts and lectures, the student will describe Cellular Communications, GSM, and PCS with 85% accuracy.

#### ➤ Module C— Data, Video Information, and Broadband Networks

- Given texts and lectures, the student will describe ISDN Technologies with 85% accuracy.
- Given texts and lectures, the student will describe Frame Relay and ATM Systems with 85% accuracy.
- Given texts and lectures, the student will describe Cable TV and Cable Modem Systems with 90% accuracy.
- Given texts and lectures, the student will relate Power Line Technology with other Technologies with 80% accuracy.
- Given texts and lectures, the student will describe the various xDSL Technologies with 90% accuracy.
- Given texts and lectures, the student will describe Mobile IP Technology with 90% accuracy.
- Given texts and lectures, the student will describe the T Carrier System with 80% accuracy.
- Given texts and lectures, the student will describe the SONET system with 85% accuracy.
- Given texts and lectures, the student will describe the Internet, VOIP, and related technologies with 90% accuracy.

### **COURSE REQUIREMENTS**

Students are responsible for attaining competencies through completion of the following course requirements:

#### **ATTENDANCE:**

Students are responsible for attending all scheduled meetings in the courses in which they are enrolled **until they have completed all course requirements**. Students are responsible for all material covered and for all assignments made in all classes. Students who are absent from a class more than 20 percent of the hours assigned will be withdrawn. A grade of “W” is assigned if the student’s last date of attendance is on or before mid-term. If a student is withdrawn from a course and the last date of attendance is after mid-term, the grade assigned may be a “W” or a “WF”. The attendance policy also applies to students enrolled in telecourses or online courses. “Attendance” is established for telecourses through contacting the instructor, turning in assignments, and completing tests. “Attendance” is established for online courses by contacting the instructor, logging into the course on a regular basis, and completing assignments and tests. The attendance procedure for online and telecourse students is available through the course syllabus.

#### **Missing Class**

In case a student does miss a class, he/she is responsible for obtaining the material that was covered during the absence. If a student is aware that he/she will miss a class, then the student should notify the instructor at the earliest possible date.

#### **Missing a Test**

If a student misses a test because of illness or urgent emergency, the he/she should notify the instructor prior to the class period, or at the earliest possible date. At that time a new date for the make up test will be scheduled. Students with unexcused absences during test will be allowed to take a make up test at the discretion of the instructor. The student has the burden to be sure that some arrangement is made with the instructor for taking a makeup test.

## **STUDENT CONDUCT:**

York Technical College adheres to the South Carolina TECH Student Code and Grievance Procedure, approved by the State Board for Technical and Comprehensive Education on November 13, 2003. (Copies of this *Student Code and Grievance Procedure* are available in the College Library, the Industrial & Engineering Technologies Division Offices in Building C and D, the Business, Computer, Arts & Sciences Division Office in Building A, the Health & Human Services Division Office in Building A, the Student Government Association Office in the Student Center, in the Student Services Building., and on the College's website.) It is the policy of York Technical College that the *Student Code and Grievance Procedure* shall govern conduct and guarantee due process for students enrolled at the College. The College expects all students to conduct themselves with dignity and to maintain high standards of responsible citizenship. The regulations which follow are significant and students are expected to become familiar with them:

1. The College reserves the right to decline admission, to suspend, or to require the withdrawal of anyone whose conduct is disruptive to the educational process.
2. The possession or consumption of alcoholic beverages or other drugs by a student while on College property is prohibited and is grounds for dismissal. York Technical College does not sanction the use of alcoholic beverages at any event involving students of the College.
3. Children are not permitted in classrooms, shops or labs. Children should not be left unattended at any time on campus.
4. 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.
5. All students should display a current parking decal on their vehicle and abide by the parking regulations provided.
6. Students are not permitted to eat or drink in the library or labs. Eating and/or drinking in classrooms is left to the discretion of the instructor. Smoking is not permitted in buildings.

## **PARTICIPATION IN CLASS**

Students will be expected to participate in class discussions, to demonstrate problem-solving techniques, to complete tests, homework, lab experiments, lab reports and other assigned work.

## **EVALUATION STRATEGIES/GRADING**

The grading scale will be as follows:

### **Grade Points**

A	90-100
B	80-89
C	70-79
D	60-69
F	00-59

### **Evaluation Method**

*Unless otherwise stated:*

Tests may be written or oral and may contain questions that are true or false, short answer, multiple choice, fill in the blank and/or problems.

Each Module will carry equal weight. Each test within each module will carry equal weight. Each lab and report within a module will carry equal weight.

Module grades will be determined as follows:

Major Tests (minimum of 1)	70 %
Instructor Options	20 %
Work Ethics	10%

Distributed evenly among:

Attendance	Respect for others
Team Work	Timeliness
Safety	Quality
Participation	Perseverance
Ethical behavior	Cooperation

The instructor options will be discussed with the students during the first week of class. These options may include homework, spot quizzes or written reports.

**ENTRY-LEVEL SKILLS:**

Requires computer skills to include simple Windows operations

**PREREQUISITES:**

RDG 101 or equivalent and EET 241

**CO-REQUISITES:**

None