**I. COURSE TITLE:** Digital Communications

**COURSE NUMBER:** 2255 **CATALOG PREFIX:** EENG

**II. PREREQUISITES:** EENG 2205

**COREQUISITES:** CSCI 1141

**III. CREDIT HOURS:** 3 **LECTURE HOURS:** 3

**LABORATORY HOURS: 0 OBSERVATION HOURS: 0**

**IV. COURSE DESCRIPTION:**

An examination of various digital communication techniques. Topics covered will include modulation, sampling, coding, and decoding, multiplexing, error detection and correction, modems, LANs, and WANs.

**V. GRADING:**

Grading will follow the policy in the college catalog

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

**VI. ADOPTED TEXT(S):**

Tom Wheeler. *Electronic Communications for Technicians.*

 Pearson Prentice Hall, 2nd edition, 2006 ISBN 0-13-113049-8

**VII. COURSE OBJECTIVES:**

The student will be able to describe:

\* Basic of the Telephone system

\* Quantitizing

\* Pulse code modulation

\* Time division multiplexing

\* Frequency Division

\* Error detection and correction schemes

\* Modems

\* RS232C standard

\* LANs

\* WANs

**VIII. COURSE METHODOLOGY**

Classes will consist of lectures, class discussions, small group projects, videos, outside assignments and supplemental materials. Interactive class discussion is encouraged and staying current on reading assignments necessary to be able to actively participate in class discussions

**IX. COURSE OUTLINE:**

Week 1 Chapter 1 & 2

 Introduction to RF Communications

 Signal Analysis

Week 2 Chapter 14 Test CH 1 & 2

 Telephony and Cellular Networks

Week 3 Chapter 14 (Cont.) Test CH 14

 Introduction to Data Communications

Week 4 Chapter 15

 Introduction to Data Communications

Week 5 Chapter 16 Test CH 15

 Networking Fundamentals

Week 6 Chapter 16(Cont.) Test CH 16

 Networking Fundamentals

Week 7 Chapter 16(Cont.) Test CH 16

Week 8 Chapter 17

 The Global Positioning System

Week 9 Chapter 17 (Cont) Test CH 17

Week 10 Chapter 18

 Fiber Optic & Laser technology

Week 11 Chapter 18 (Count.) Test CH 18

Week 12 Chapter 3

 AM Modulation

Week 13 Chapter 3 ( Cont) Test CH 3

Week 14 Chapter 7

 Systems for Frequency Generation

Week 15 Chapter 7(Cont) Test CH 7

Week 16 Final

**X. OTHER REQUIRED BOOKS, SOFTWARE AND MATERIALS:**

Scientific calculator

**XI. EVALUATION:**

TEST = 40% -10% for unexcused absences

 LAB = 40% -10% for unexcused absences

 FINAL=20%

 How well the comprehension of the learning objectives.

**XII. SPECIFIC MANAGEMENT REQUIREMENTS:**

None

**X111. OTHER INFORMATION:**

 **FERPA:** Students need to understand that your work may be seen by others. Others may see your work when being distributed, during group project work, or if it is chosen for demonstration purposes.

 Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

 **DISABILITIES:** Students with disabilities may contact the Disabilities Service Office, Central Campus, at 800-628-7722 or 937-393-3431.