STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

COURSE OUTLINE

ELEC 238 – TELECOMMUNICATIONS IV

Prepared By: Stacia Dutton

CANINO SCHOOL OF ENGINEERING TECHNOLOGY
ELECTRICAL ENGINERING TECHNOLOGY
MARCH 2012

ELEC 238 – TELECOMMUNICATIONS IV

A. TITLE: ELEC 238 – TELECOMMUNICATIONS IV

B. COURSE NUMBER: ELEC 238

C. CREDIT HOURS: 4

D. WRITING INTENSIVE COURSE (OPTIONAL): NO

E. COURSE LENGTH: 15 Weeks

F. SEMESTER(S) OFFERED: SPRING

G. HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:
4 HOURS LECTURE

H. CATALOG DESCRIPTION: A survey of current and emerging technologies in Telecommunications will be presented. Topics covered will include: audio/video systems, security and surveillance, residential systems integration, business system integration, and integration of home and small business.

I. PRE-REQUISITES: ELEC 237 Telecommunications III

J. GOALS (STUDENT LEARNING OUTCOMES):
By the end of this course, the student will be able to:

Course Objectives	***Institutional SLO***
a. Explain advanced telecommunication techniques and principles.	1. Communication 2. Crit. Thinking
b. Explain current and future integrated communication services and their applications.	1. Communication 2. Crit. Thinking
c. Identify sources of information and reference material for current and emerging technologies.	2. Crit. Thinking 3. Prof. Competence
d. Articulate concepts of advanced networks and services.	1. Communication 2. Crit. Thinking
e. Practice working productively as a team, practicing project leadership, interpersonal skills and conflict resolution in a networked environment.	3. Prof. Competence
f. Practice problem solving via the planning, organization and delivery of projects in a networked environment.	3. Prof. Competence

K. TEXTS: Wells, Quentin, *Guide to Digital Home Technology Integration*, P.O. Box 6904, Florence, KY, Delmar Cengage Learning, 2008

L. REFERENCES: Course management software and the web are to be incorporated as an integral part of the course delivery process.

M. EQUIPMENT: Verizon will supply any equipment needed for this course.

N. GRADING METHOD: A-F

O. MEASUREMENT CRITERIA/METHODS: Quizzes, Midterm, Lab Projects, Homework and Final Exam

P. DETAILED TOPICAL OUTLINE:

I. Residential Environment
1. An integrated home
2. Needs of a residential network
3. Standards and regulations

II. Network Review
1. Networking concepts, addressing, and security
2. Home security and ISP security
3. Remote security access
4. Cable vs. Wired

III. Telecommunications
1. For the home
2. For the small business
3. What is available now
4. Planning for the future
5. Selection of technology to be used in lab

IV. Audio/video systems and options
1. VoIP for home and small business
2. Distribution of whole-house (small business) audio/video
3. Establishing the demarcation point for home and small business

V. Security and Surveillance
1. Network security
2. Video security
3. Detection surveillance

VI. Residential Systems Integration
1. Whole-home integration infrastructure
2. Structured media – communication center
3. User interface and configuration
4. Home portal and gateway
5. Server setup and integration
6. Controlling appliances and HVAC systems remotely

VII. Business System Integration
1. Whole business Integration and Infrastructure
2. Communication center
3. Server setup and configuration

VIII. Integration of Home and Small business

1. Audio/VoIP connections
2. VPN between home and office
3. Remote control of home from office and office from home