

ELEG 5713 - ANTENNAS AND RADIATION

Spring Semester, 1996

Catalog Data: ELEG 5713. Antennas and Radiation. Credit 3 hrs. Radio frequency antennas, control of radiation patterns, antenna impedance and antenna feeding systems. Prerequisite: ELEG 3713
1995-96

Textbook: Antennas, 2nd Ed, John D. Krauss, McGraw-Hall, 1988.

Reference: IEEE Trans. Antennas and Propagation.

Coordinator: W. P. Waite, Professor of Electrical Engineering

Goals: To introduce students to theory and analysis of radiating systems.

Prerequisites by Topics:

1. Maxwell's equations
2. Wave Propagation

Topics:

1. Definitions. (2 classes)
2. Point sources. (2 classes)
3. Arrays. (6 classes)
4. Line antennas. (4 classes)
5. Loop antennas. (4 classes)
6. Helical antennas. (4 classes)
7. Moment method. (4 classes)
8. Reflector antennas. (6 classes)
9. Slots and horns. (4 classes)
10. Broadband antennas. (4 classes)
11. Exams. (2 classes)

Computer Usage:

Homework problems assigned requiring pattern plots use text programs and NEC WIN.

Laboratory Projects:

None.

ABET category content as estimated by faculty member who prepared this course description.

Engineering Science: 1.5 credit or 50%.
Engineering Design: 1.5 credit or 50%

* Three 50 minute classes per week.

By: _____ Date: _____