# ECEN 5860 - Fundamental of Antenna Design and Application

## Fall 2026 Syllabus, Section 01, CRN 41360,

Credit hours: 3

## Instructor

**Edward Burden**

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## Public Instructor Information

Instructor Title: Senior Lecturer
Instructor Professional Qualifications: MSEE
Instructor Office Location: Moser 2035
Instructor Office Phone:

## Course Description

5860. Fundamentals of Antenna Design and Application. Examination of dipole, loop aperture, and microstrip antennas; array theory; radiation resistance, directivity, equivalent circuits, input impedance, and basic transceiver architecture. Investigation of practical applications of antennas and arrays in communications systems, radar systems and airborne navigation systems. Prereq.: ECEN 3742 grade of "C" or better and 21 s.h. of ECEN courses. 3 s.h.

## Course Readings

| Group | Title | Author | ISBN |
|---|---|---|---|
| Choose One | Antenna Analysis and Design | Balanis | |

Read along with the course lectures.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

## Schedule of Topics and Assignments

| Week of | Proposed Topic | Due/To Prepare for Class |
|---|---|---|
| 8/24 | The Mathematics Needed | |
| 8/31 | Radiation Parameters | |
| 10/5 | Dipoles | |
| 10/26 | Arrays | |
| 11/9 | Apertures | |
| 11/23 | Microstrip | |

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.