

EEE 5557 Introduction to Radar Systems

Credits: 3 credits

Textbook, Title, Author, and Year: M. I. Skolnik: Introduction to Radar Systems McGraw-Hill 2000
(Relevant Lecture Notes (in 6 Units) will be made available on the Black-Board periodically on ad hoc basis)

Reference Materials: Lecture Notes (in 4 Units) will be made available on the Black-Board periodically.
B. R. Mahafza: Radar System analysis and Design Using MATLAB, CRC Press 2000

Specific Course Information

Catalog Description: Introduction to radar systems-Topics include radar equations, pulse and tracking radars, and radar transmitters and receivers.

Prerequisites: EEL 3470, EEL 4512/EEL 4541 or Instructor Permission

Specific Goals for the Course:

This course is intended to impart the concepts and practical aspects of modern electrical and communication systems providing advanced perspectives on relevant technological trends. The topics are specified to address the intriguing basics of Radar systems, operational features and state-of-the-art applications. This course is concurrently offered as Senior level UG technical elective to indicate the interesting zones of technology not covered in the core curriculum

Brief List of topics to be covered:

1. Basics of Radar; Radar equation, Monostatic and Bistatic Radars
2. Radar Cross-section (RCS); MTI & Pulse-Doppler Radar; Tracking Radars
3. Detection of Radar signals in the Presence of Noise/Clutter
4. Radar transmitters & Receivers; radar antennas. Radar Applications (Civil & Military)