Radar Systems

(RADAR=Radio Detecting and Ranging)

Outline:

- Introduction and Radar Basics
- Radar Equation
- Noise and Detection
- Transceiver (Antenna and System)
- Radar Clutter
- Parameter Estimation and Tracking
- Classifications and Applications

References:

- Skolnik, M.I. ***Introduction to Radar Systems***, McGraw-Hill, 2001 (third edition).
- M. A. Richards et al, ***Principles of Modern radar: Basic principles***, Scitech 2010.
- Kingsley, S.P. and Quegan, S., ***Understanding Radar Systems***, McGraw-Hill, 1992
- Stimson, G.W., ***Introduction to Airborne Radar*** (second edition), SciTech Publishing, 1998.
- Levanon, N. ***Radar Principles***, Wiley, 1988.
- Nathanson, F.E. (ed.), ***Radar Design Principles*** (second edition), McGraw-Hill, 1991.

Evaluation:

- Project (35%)

  Read a technical paper (IEEE, IET, Springer, Elsevier, John Wiley, etc.) and re-perform the simulations and calculations and report (power-point presentation)

- Final Exam (65%)

  From course slides