

# Course Syllabus

## Radare Engineering

ECE/METR 5663/4663

MW, 6:30-7:45PM

Spring 2009

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**Instructors:** Dr. Tian Yu (325-3344, [tyu@ou.edu](mailto:tyu@ou.edu))

**Office Hours:** 4:30-6:00pm MW or by appointment

**Prerequisites:** Grade of C or better in ECE 3613 or instructor's permission

**Text:** *Introduction to Radar Systems*, Skolnik, McGraw Hill

### References:

1. *Radar Handbook*, Skolnik, McGraw Hill
2. *Radar Principles*, Peebles, Wiley.

**Goals:** The course introduces various radar system designs and their applications. Radar system architecture and the functionalities and limitations of subsystems are discussed. Theories of radar detection and estimation in the noisy and clutter environment are examined. Existing technologies and advanced techniques to improve radar performance are provided.

### Course Outline:

1. An Introduction to Radar (Chapter 1)
2. The Radar Equation (Chapter 2)
3. MTI and Pulse Doppler Radar (Chapter 3)
4. Tracking Radar (Chapter 4)
5. Detection of Signals in Noise (Chapter 5)
6. Information from Radar Signals (Chapter 6)□

### Grading Policy:

- Homework and projects 55%
- Midterm exam 20%
- Final exam 25%

### Course Policies:

- All the homework and project reports are due at the beginning of the class on the specified date. No late homework or reports are accepted, so don't wait until the last minute. Take advantage of the office hours!
- Make-up tests are given only if you have legitimate reason (such as medical or accidental). It is your responsibility to make other arrangements before the exam. Otherwise, the missed test cannot be retaken. Please note that travel arrangements, social or sporting events are not acceptable reasons for missing a test.
- Computer programming may be required in the homework and projects. You can choose the computer language you are familiar with but MATLAB is recommended.
- Academic Honesty: It is your responsibility to read and understand the Academic Integrity (<http://www.ou.edu/provost/integrity/>). Any academic misconduct will result in a failing grade in the class.
- All written assignments must include the University Integrity Pledge as follows:

**On my honor, I affirm that I have neither given nor received inappropriate aid in the completion of this exercise.**

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- Any student in this course who has a disability that may prevent him or her from fully demonstrating his other abilities should contact any of us personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.