

## EEE 4360C/ High Frequency Amplifiers

**Credits:** 3 credits

**Textbook, title, author, and year:** Microwave Transistor Amplifiers, 2nd ed., G. Gonzalez, Prentice Hall, 1997

**Reference materials:** High Frequency Amplifier Class-Notes, Rev. 2019, J. Bagby, available on Canvas

### Specific course information

**Catalog description:** Scattering parameters, matching networks and the Smith chart, stability considerations, design to meet various criteria, low noise, broadband, high power design, RF oscillator design, CAD design techniques

**Prerequisites:** EEE 3300 (Electronics 1), EEL 3470 (Electromagnetic Fields and Waves)

**Specific goals for the course:** This course provides students with a firm foundation in RF amplifier analysis and design techniques. Design considerations include scattering parameters, matching networks, device modeling, stability considerations, and usage of CAD software packages (primarily Agilent ADS and Ansoft Designer).

### Brief list of topics to be covered:

1. Conventional and micro strip transmission lines
2. Two-port networks and scattering parameters
3. Matching network design
4. RF amplifier stability considerations
5. RF amplifier design to meet specific design criteria
6. Broadband and high power RF amplifier design
7. Tests and reviews