**EE 463/579 Microwave Electronics Design  Winter 2018**

*** All class materials are located at https://canvas.uw.edu/courses/1129017/files. 
(Note: UW Catalyst will not be available in 2018)

Instructor: Professor Yasuo Kuga, Rm430 EEB
Tel: 543-0478, vykuga@u.washington.edu

Schedule: Lecture: WF: 10:30-12:20 pm  Room: EEB003
Lab: Rm419 (equipment), Software: EE RemoteDesktop
Office hour: WF: 12:30-1:30

TA: Not available

References: Lecture notes and lab manuals on the class site

Ref. Textbook: Microwave Engineering, D. Pozar

**Course Objectives:**
1. To introduce students to microwave CAD software and measurement techniques.
2. To introduce students to passive and active microwave circuits.

**Topics:**
1. Introduction to microwave transmission lines.
2. Transmission line matching techniques.
3. Microwave circuit analysis using S-parameters
4. 90° and 180° hybrid analysis and design
5. Microwave filter analysis and design
6. Noise analysis
7. Design of a microwave amplifier
8. Microwave systems

**Lab Projects: (tentative)**
(1) Into to Designer
(2) Intro to NWA
(3) Microstrip transmission line matching techniques
(4) 90 or 180 degree hybrid design
(5) Low pass filter design and fabrication
(6) Amplifier characterizations: linear and non-linear responses
(7) Final project (amplifier design)

**Lab Instruments and CAD Software:**
- Vector network analyzer (VNWA) and other microwave equipment
- Ansoft **Electronics Desktop (HFSS,Designer)** microwave circuit design software

**Course grading (tentative):**
Midterm (TBD): 25%, Final (takehome): 10%, Lab projects: 40%, Final Project: 25%

**Projects from previous years**

**Final Project:** Narrow band amplifier
180 degree hybrid

Fred Pang
3.3 GHz LPF

Low-Pass Filter: fc=3.3 GHz

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10mm Ref 3.3 GHz LPF