ELC 4384 RF/MICROWAVE CIRCUITS II
ELC 5339 HIGH FREQUENCY ELECTRONICS II
SPRING 2020

Lectures: TR 12:30 – 1:45, Rogers 312
Instructor: Dr. Charles Baylis
Office: Rogers 300C
Office Hours (subject to change): TR 11:30-12:30, TR 2:00 – 3:00, or by appointment
E-mail: Charles_Baylis@baylor.edu
Course Website: http://web.ecs.baylor.edu/faculty/baylis. Students are responsible to check this site frequently as it will be the primary out-of-class communication method. Handouts and assignments will be posted on this site. Students should also have a Baylor e-mail account and are responsible for checking this account at least once per day for class-related updates.
Textbook: Guillermo Gonzalez, *Microwave Transistor Amplifiers*, Second Edition, ISBN 0-13-254335-4
Prerequisites: ELC 4383 – RF/Microwave Circuits I or ELC 5338 – High Frequency Electronics
Objectives: This is a second course in radio-frequency and microwave circuits covering microwave amplifier and oscillator design. Topics include the ZY Smith chart, matching network design, gain calculations, design for amplifier stability, noise figure and low-noise amplifier design, gain matching, and negative resistance oscillator design. Several project assignments will be given using microwave CAD tools and/or hands-on measurements and a final project will involve the simulation, design, construction, and testing of an amplifier.
Grading: The following is tentative and subject to change: Two examinations will be given. The formats of these tests and specific dates will be announced in advance of the tests. Homework will be assigned for each lecture but will not be collected. A quiz will be given each Tuesday covering the material from the previous week. The formats and requirements for the quizzes will vary. In some weeks, the quiz may be timed and in-class, while for other weeks, the quiz will be a take-home assignment. Several project assignments utilizing Keysight Advanced Design System and/or the Wireless and Microwave Circuits and Systems Teaching Laboratory will be given throughout the semester. A final amplifier design project will also be assigned.

Tentative Grading Breakdown (tentative and subject to change at any time):

Midterm Exam	20%
Final Exam	20%
Final Design Project	20%
Software/Measurement Projects	20%
Quizzes	20%

A typical grading scale will be used:

90-100	A
88-90	B+
80-88	B
78-80	C+
70-78	C
60-70	D
Below 60	F

No minus grades will be assigned.

Attendance: Students are expected to attend all class meetings.

Missed Assignments: If no arrangement is made in advance with the instructor, students missing a test, quiz, or assignment may be given, at the option of the instructor, a zero for that assignment. Students anticipating the need to take a test or quiz at a time other than that scheduled or to turn in an assignment late must make arrangements with the instructor in advance. In an emergency where advance notification is impossible, appropriate documentation supporting the excuse should be provided.

Appeal of Assignment Grades: Any student wishing to appeal a grade on an individual assignment must appeal that grade to the instructor, in writing, within one week following the return of the graded assignment to the student. Any appeals for grade changes outside of this one-week window will be disregarded.

Registration: Assignments of students not on the official class roll will be discarded without grading.

Academic Dishonesty: Rules for academic honesty in this course are as follows:

- Tests and Quizzes: No collaboration whatsoever is allowed on any of the tests or quizzes. This includes any take-home quizzes or tests unless specifically noted otherwise by the instructor.
- Projects: The software projects and the final project are to be completed individually unless specifically noted by the instructor. Discussion of ideas and implementation methods is acceptable and encouraged; however, all development of simulation schematics, circuit designs, programming, problem solving, circuit construction, and measurements related to the software projects and the final project should ultimately be completed individually.

Any student found in violation of this policy may be given an "F" for the course at the option of the instructor and at minimum will be given a zero for the assignment. It is the responsibility of each student to understand and follow this policy.

Computer Requirements: All students should have access to a computer running Advanced Design System (including Momentum) from Keysight Technologies and to Mathcad. Advanced Design System will be used for the software projects and final project, and Mathcad will be used for homework problems, some quizzes, and examinations.

Sexual and Gender-Based Harassment and Interpersonal Violence Policy: Baylor University does not discriminate on the basis of sex or gender in any of its education or employment programs and activities, and it does not tolerate discrimination or harassment on the basis of sex or gender. This policy prohibits sexual and gender-based harassment, sexual assault, sexual exploitation, stalking, intimate partner violence, and retaliation (collectively referred to as prohibited conduct). For more information on how to report, or to learn more about our policy and process, please visit www.baylor.edu/titleix. You may also contact the Title IX office directly by phone, (254) 710-8454, or email, TitleIX_Coordinator@baylor.edu.