

ECE 451 SPRING 2018

Section	Time	Instructor	Room
X	12:00 MW	J. Schutt-Aine	3015 ECEB

Instructor

Jose Schutt-Aine, 5042 ECEB, jesa@illinois.edu – Office Hours: Wed, 3-4 pm.

Book

M. Steer, *Microwave and RF Design*, 2nd Edition, SciTech Publishing, 2013.

Notes

Lab notes can be downloaded from course web site at: <http://emlab.illinois.edu/ece451/labs.html>

Class notes can be downloaded from course web site at: <http://emlab.illinois.edu/ece451/notes>

Grading Policy

Lab	55% of total
Homework and Quizzes	20% of total
Midterm	10% of total
Final	15% of total

Lab Reports Policy

Instructions for preparing and returning lab reports will be given and are described in the Introduction for the Laboratory Notes.

Homework & Quizzes

Homework assignments will be given throughout the semester. Assignments will be passed on a Wednesday and will be due two weeks later.

Midterm Exam

Monday, March 5, 12:00 – 12:50 pm, 3015 ECEB

Laboratory Instructors (Lab 5076 ECEB)

Robert Kummerer - rkummer2@illinois.edu

Thong Nguyen - tnnguye3@illinois.edu

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Course Web Site

<http://emlab.illinois.edu/ece451>

ECE 451 SCHEDULE: FALL 2018

Lec	Mo	Date	Topic	Ch	Lab(Tuesday & Thursday)
1	JAN	W-17	Introduction		
2		F-19	Transmission Lines	5	
3		M-22	Smith Chart	5	
4		W-24	Planar Transmission Lines	6	
5		F-26	Scattering Parameters	9	
6		M-29	Scattering Parameters of TL	9	Lab 1 – Lab introduction
7		W-31	Flow Graph	10	
8	FEB	F-2	One-term error model		
9		M-5	Three-term error Model		Lab 2 – Slotted line
10		W-7	Three-term error Model		
11		M-12	8-12- term error models		Lab 3 – Automated Scalar Reflectometry
12		W-14	TRL Calibration Method		
13		M-19	Application of TRL		Lab 4 – Network Analyzer Error Correction
14		W-21	Time-Domain Reflectometry		
15		M-26	TL Extraction		Lab 5 – PNA and TDR
16		W-28	On-chip Measurements		
	MAR	M-5	Midterm Exam		Lab 6 – Extraction of TL Parameters
17		W-7	Eye Diagram Measurements		
18		M-12	Advanced Techniques & Hilbert T		Lab 7 – Wafer Tests and Eye Diagrams
19		W-14	Advanced Techniques		
		M-19	SPRING BREAK		
20		M-26	Linear Amplifiers		Lab 8 – TRL Calibration
21		W-28	Gain Compression	4.10	
22	APR	M-2	Power Amplifiers	19	Lab 9 – Advanced Techniques
23		W-4	Power Amplifiers		
24		M-9	X-Parameters		Lab 10 – Amplifier Measurements
25		W-11	X-Parameters		
26		M-16	X-Parameters		Lab 11 – Simulating X-Parameters with ADS
27		W-18	Signal Integrity		
28		M-23	Signal Integrity		Lab 12 – X-Parameter Measurements
		W-25	CAEML - No Class		
29		M-30	Review		
	MAY	W-2	Final Exam		