

ECE 451 SPRING 2017

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

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 6, 12:00 – 12:50 pm, 3015 ECEB

Laboratory Instructors (Lab 5076 ECEB)

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Course Web Site

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

ECE 451 SCHEDULE: FALL 2017

Lec	Mo	Date	Topic	Ch	Lab(Tuesday & Thursday)
1	JAN	M-23	Introduction		
2		W-25	Transmission Lines	5	
3		M-30	Smith Chart	5	Lab 1 – RF Power Detection – LabView introduction
4	FEB	W-1	Planar Transmission Lines	6	
5		F-3	Scattering Parameters	9	
6		M-6	Scattering Parameters of TL	9	Lab 2 – Slotted line
7		W-8	Flow Graph	10	
8		F-10	One-term error model		
9		M-13	Three-term error Model		Lab 3 – Scalar Reflectometry with LabView
10		W-15	Three-term error Model		
11		F17	8-12- term error models		
12		M-20	TRL Calibration Method		Lab 4 – Error Correction
13		W-22	Application of TRL		
14		F-24	Time-Domain Reflectometry		
15		M-27	TL Extraction		Lab 5 – PNA and TDR
16	MAR	W-1	On-chip Measurements		
		M-6	Midterm Exam		Lab 6 – Extraction of TL Parameters
17		W-8	Eye Diagram Measurements		
18		M-13	Advanced Techniques & Hilbert T		Lab 7 – Wafer Tests and Eye Diagrams
19		W-15	Advanced Techniques		
		M-20	SPRING BREAK		
20		M-27	Linear Amplifiers		Lab 8 – TRL Calibration
21		W-29	Gain Compression	4.10	
22	APR	M-3	Power Amplifiers	19	Lab 9 – Advanced Techniques
23		W-5	Power Amplifiers		
24		M-10	X-Parameters		Lab 10 – Nonlinear VNA Measurements
25		W-12	X-Parameters		
26		M-17	X-Parameters		Lab 11 – Simulating X-Parameters with ADS
27		W-19	Signal Integrity		
28		M-24	Signal Integrity		Lab 12 – X-Parameter Measurements
		W-26	CAEML - No Class		
29	MAY	M-1	Review		
		W-3	Final Exam		