

2013 Scanning Sheet. Assignment Description: _____ Instructor: _____ Date: _____ Scanned File Name: _____

ABET Outcomes											Rubric or student %	Example problem	Outcome #	EE 303 Introduction to Solid State Devices (3) – Outcomes Reviewed 2016
A	B	C	D	E	F	G	H	I	J	K				
				2							2		1	Explain the Basic semiconductor structure. Metals, semiconductors, and insulators. Semiconductor physical and electrical properties. Concept of doping, intrinsic, extrinsic carrier concentration.
				2							2		2	Understand and apply concept of mobility, effective mass, drift and diffusion current, and Fermi Level to solid state device design.
		1		2							2		3	Learn the PN-junction theory and design, tune response of PN-junction and Schottky Diode and concept of ohmic contacts.
		1		2							2		4	Apply bipolar junction transistor physical operation, theory and design issues in real BIT devices, and address high frequency and high speed issues.
		1		2							2		5	Apply MOS capacitor, MOSFET physical operation, theory and design for high frequency/high speed operation of MOSFET and CMOS.
				1							2		6	Understand physical operation and theory of LEDs, Laser Diodes, and transferred charge devices.

1=supporting contribution
2=significant contribution

Rubric 5: Excellent Mastery of Outcome By Vast Majority of Students 4: Good Mastery of Outcome By Vast Majority of Students 3: Adequate Mastery of Outcome By Majority of Students 2: Marginal Mastery of Outcome By Most Students 1: Lack of Mastery of Concept By Most Students	a. an ability to apply knowledge of mathematics, science, and engineering
	b. an ability to design and conduct experiments, as well as to analyze and interpret data
	c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
	d. an ability to function on multi-disciplinary teams
	e. an ability to identify, formulate, and solve engineering problems
	f. an understanding of professional and ethical responsibility
	g. an ability to communicate effectively
	h. the broad education necessary to understand the impact of engineering solution in a global, economic, environmental, and societal context
	i. a recognition of the need for, and an ability to engage in life-long learning
	j. a knowledge of contemporary issues
k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	

Improvement Suggestions or Comments: