

2013 Scanning Sheet. Assignment Description:

Instructor:

Date:

Scanned File Name:

ABET Outcomes											Rubric or student %	Example problem	EE 281 Digital System Design with Testability (3 credit) – Revised 2013	
A	B	C	D	E	F	G	H	I	J	K			Outcome #	
				2								1	Design and analysis of arithmetic combinational components – binary adders, subtractors, overflow detection, decoder, encoder, multiplexer, comparator, shifter, and Arithmetic Logic Units (ALU)	
				1								2	Design flip-flops with understanding of asynchronous inputs and timing issues	
1				2								3	Design Moore and Mealy finite state machine using state table and state diagrams	
1				1								4	Optimize sequential circuits via state reduction, state encoding and choice of flip-flops	
				1								5	Design sequential circuits using standard components including registers, register files, synchronous and asynchronous counters.	
2										1		6	Design digital circuits using discrete gates, PLAs, PALs, CPLDs, memory devices, and FPGAs.	
1	1											7	Design and analysis of fault detection/correction combinational circuits.	
1	1											8	Design and analysis of fault detection sequential circuits.	
	2											9	Perform fault diagnosis and test of combinational circuits with simple fault models.	
2				2								10	Design incompletely-specified synchronous sequential circuits.	
2				2								11	Design pulse-mode sequential circuit.	
2		2										12	Describe combinational and sequential circuit using an HDL such as VHDL.	
2				2								13	Write testbench to simulate the HDL description of a digital circuit.	

1=supporting contribution

2=significant contribution

<p>Rubric</p> <p>5: Excellent Mastery of Outcome By Vast Majority of Students</p> <p>4: Good Mastery of Outcome By Vast Majority of Students</p> <p>3: Adequate Mastery of Outcome By Majority of Students</p> <p>2: Marginal Mastery of Outcome By Most Students</p> <p>1: Lack of Mastery of Concept By Most Students</p>	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:	