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

ABET Outcomes											Rubric or student %	Example problem	Outcome #	EE 282 Digital System Design with Testability Lab (1) - Outcomes Revised 2013
A	B	C	D	E	F	G	H	I	J	K				
2	1			1						2			1	Use TTL chips to build simple digital circuit such as a code converter.
2	1			1						2			2	Use TTL chips to construct arithmetic circuits such as an adder, a magnitude comparator, or a signed adder.
2	1			1						2			3	Use TTL chips and timer chip to construct a binary or BCD counter.
1	2			1	1								4	Be able to use software such as Altera Quartus II or Xilinx ISE to enter an HDL (in Verilog or VHDL) program that describes a circuit, compile the program, and download the compiled output to configure the FPGA chip on an FPGA lab kit.
1	1			1	1	1				1			5	Describe a digital circuit using dataflow, structural, and behavioral style model in a chosen HDL language.
1	1			1	1					1			6	Write a testbench to simulate a digital circuit described using a chosen HDL language.
1	1			1	1					1			7	Use a chosen HDL language to describe arithmetic circuits such as a 4-bit carry-lookahead adder and test its operation using an FPGA lab kit.
1	2			1	1					1			8	Use a chosen HDL language to describe a counter or shift register and the associated seven-segment display decoding circuit and test it using an FPGA lab kit.
1	2			1	1					1			9	Use a chosen HDL language to describe a finite state machine using the Mealy and Moore model and test the designed circuit using an FPGA lab kit.

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

Improvement Suggestions or Comments:

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