

Assigned: 24 August 2017

Homework #0

EE 209: Fall 2017

Research two of the topics below and write a short summary of your findings (at most 1 page per topic) that:

- a. defines and describes the topic,
- b. gives relevant history,
- c. lists why it is important,
- d. describes how it works,
- e. makes connections between your topics.

Topic list:

- 1) Compare and Contrast alternative digital integrated circuit implementation options:
 - a) FPGA (Field Programmable Gate Array)
 - b) ASIC (Application Specific Integrated Circuit)
- 2) SoC (System-on-Chip) [Check out Xilinx's product families of FPGA and SoC's]
- 3) Hardware Description Language (i.e. Verilog and VHDL and SystemC)
- 4) Logic Synthesis / EDA (Electronic Design Automation) CAD Tools
- 5) IP Core

To get a feel for IP Cores, visit www.opencores.org (an open-source repository of design IP) or <http://www.xilinx.com/products/intellectual-property/index.htm> and browse the various projects