ECE 448, FPGA and ASIC Design with VHDL  
Spring 2014

Instructor

Dr. Kris Gaj  
The Nguyen Engineering Building, room 3225  
Office hours: Monday 3:00-4:00 PM, Wednesday 3:00-4:00 PM, 7:30-8:30 PM, and by appointment

Lecture

Monday, Wednesday 1:30-2:45 PM, Robinson Hall A, room 412

Web page

http://ece.gmu.edu → Courses → ECE 448  
click on “FPGA and ASIC Design with VHDL”

Grading

Lab assignments: 40% + 2% bonus  
Midterm exam for the lecture: 10%  
Midterm exam for the lab: 15%  
Quizzes & homework: 10%  
Final exam: 25%  
Class activity: 8% bonus

Schedule (subject to possible modifications):

1. Objectives, Scope, and Organization. 01/22/2014  
2. VHDL Refresher. 01/27/2014  
3. Combinational-Circuit Building Blocks. 01/29/2014, 02/03/2014  
4. Sequential-Circuit Building Blocks. 02/05/2014  
5. FPGA Devices and FPGA Design Flow. 02/10/2014, 02/12/2014  
6. Finite State Machines: State Diagrams, State Tables, ASM Charts, and VHDL Code. 02/17/2014, 02/19/2014  
7. Modeling of Circuits with a Regular Structure. 02/24/2014, 02/26/2014  
8. Review before the Midterm Exam. 03/03/2014
9. Midterm Exam. 03/05/2014  
10. VGA Display – Graphics. 03/17/2014, 03/19/2014  
11. VGA Display – Animation and Text. 03/24/2014, 03/26/2014  
12. Xilinx FPGA Memories. 03/31/2014, 04/02/2014  
13. Design Methodology. 04/07/2014, 04/09/2014  
14. PicoBlaze Overview. 04/14/2014  
15. PicoBlaze I/O and Interrupt Interface. 04/16/2014
16. PicoBlaze Programming and Instruction Set. 04/21/2014, 04/23/2014
17. Trends in Modern FPGAs. FPGAs vs. ASICs. 04/28/2014, 04/30/2014
18. Review before the Final Exam. 05/05/2014
    Final Exam. 05/07/2014, 1:30-4:15pm

Literature

Required Textbooks


Supplementary Textbooks


Honor Code

All rules of the Mason Honor Code will be strictly enforced. You should review the rules and interpretations of the Mason Code available at http://oai.gmu.edu/the-mason-honor-code, and be familiar with them.

Students with Disabilities

If you need special assistance, please inform the instructor and the Office of Disability Services (ODS, http://ods.gmu.edu) as soon as possible. All special accommodations must be arranged through ODS.