Instructor: Dr. Janusz Zalewski
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Office Hours: Mon 3:15-5:00 & 6:15-7:15pm
Wed 3:15-5:00 & 6:15-6:45pm
Others by appointment.

CDA 3200 Digital Systems (CRN10078) -- TENTATIVE

Holmes Hall 339, Mon/Wed 5:00-6:15pm
Computer Science & Software Engineering Programs, College of Engineering
Spring 2012 Course Syllabus
`http://itech.fgcu.edu/faculty/zalewski/CDA3200/CDA3200.html`

1. Catalog Description

COP2001: Covers data paths, controllers, memory systems, and register transfer level design, as well as finite state machine design, classical logic design, and storage element design. Hardware and software tools for digital system analysis and synthesis are explored. (3 Credits)

2. Course Objectives and Specific Learning Outcomes

The student will learn fundamental concepts of logic design, such as basics of digital gates, truth tables, Boolean algebra, flip-flops and sequential circuits, as well as principles of design automation with VHDL programming. Specifically, the student will acquire:

- an understanding of the principles of digital design
- an understanding of combinational and sequential circuit design
- the ability to realize combinatorial and sequential circuits
- an understanding of basics of electronic design automation.

3. Prerequisites

COP 2006 with a minimum grade of C and PHY 2048C with a minimum grade of C.

4. Textbook

Required: V.A. Pedroni, Circuit Design and Simulation with VHDL. *Second Edition*. MIT Press, 2010, ISBN-13: 978-0-262-01433-5
Web link: `http://www.vhdl.us/`

5. Course Outline

Week 1: Introduction and Number Systems
Week 2: Boolean Algebra
Week 3: Boolean Algebra cont.
Week 4: Applications of Boolean Algebra
Week 5: Simplification Methods
Week 6: Multilevel Gate Circuits and Combinational Design
Week 7: More Complex Circuits and Programmable Logic Devices
Midterm (open books & notes)
Week 8: Introduction to VHDL
Week 9: Spring Break
Week 10: Principles of Sequential Circuits: Latches and Flip-Flops
Week 11: Registers and Counters
Week 12: Clocked Sequential Circuits
Week 13: Selected Sequential Design Problems
Week 14: VHDL for Sequential Circuits and Digital Design
Week 15: Comprehensive (open books & notes)
Week 16: Digital Design Overview
Note. Order of topics may vary, depending on the actual pace of covering material.

6. Administrative Issues

Assignments and Quizzes: Homework assignments or unannounced quizzes will be given on a weekly basis, in general.
Exams: Midterm – February 22, 2012; Comprehensive Test – April 18, 2012
Grading Policy: Assignments 25%, Quizzes 25%, Exams 25%, Comprehensive 25%
(extra points may be given for active participation, at Instructor's discretion)
Final Exam is offered on April 27, 2012; if taken counts as 33% of the grade.
A: 90-100%; B: 80-89.9%; C: 70-79.9%; D: 60-69.9%; F: < 60%;
Plus/minus grades at Instructor's discretion.

Attendance. Presence is required in all classes. No makeup will be given for missed classes, quizzes or exams, unless a case is made in advance with Instructor's approval.
Note. No food or drinks are allowed in classroom or lab. No use of cell phones in class or Instructor's office.

Ethics, Disabilities Act, and Observance of Religious Holidays. Instructor follows general university policies as spelled out, respectively, in:

- Academic Behavior Standards & Academic Dishonesty Policy in the Student Guidebook (sections on "Student Code of Conduct" and "Policies and Procedures").
  See: `http://studentservices.fgcu.edu/JudicialAffairs/`
- Americans with Disabilities Act of 1990 – services provided by Office of Adaptive Services
  See: `http://studentservices.fgcu.edu/adaptive/`
- Policy 4.005 Student Observance of Religious Holidays
  See: `http://www.fgcu.edu/generalcounsel/policies-view.asp`

Disclaimer. This syllabus has been prepared to the best of the Instructor's knowledge, but the right is reserved to modify or adjust it slightly depending on circumstances beyond Instructor's control.