

CPEN430: Digital Systems – Syllabus – Autumn 2019

Lectures: T, R 12:25 PM - 1:40 PM, PAC 101
Lab. S01: M 3:10 PM - 5:50 PM, HRK 100

Office Hours:

- M 1:00 PM - 3:00 PM
- T, R 11:00 AM - 12:00 PM
- Feel free to walk-in anytime or to make an appointment

Instructor:

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Course Description

Modern methods of digital design realization. Technology independence. Designs utilizing field programmable gate arrays. Use of high level design software. Extensive use of VHDL for system description, simulation and implementation.

Recommended Textbooks

- W.J. Dally, R.C. Harting and T.M. Aamodt *Digital Design Using VHDL. A System Approach*, Cambridge University Press
- V. Pedroni, *Circuit Design and Simulation with VHDL*, MIT Press

Additional References

- C. Roth, and L. John, *Fundamentals of Logic Design*, Cengage Engineering 7/e, 2013
- D. Harris, and S. Harris, *Digital Design and Computer Architecture*, Morgan Kaufmann 2/e, 2012
- N. Pappas, *Digital Design*, West Publishing, 1993

Grading Policy

Letter	Percentage
A	100-94
A-	93-90
B+	89-86
B	85-82
B-	81-78
C+	77-74
C	73-70
C-	69-66
D+	65-62
D	61-58
F	57-0

Grading (*late work will not be accepted*)

- Homework: 10% (lowest score will be dropped)
- Labs: 30%
- Midterm: 30%
- Final: 30%

Important Dates

- Tuesday, Aug. 27 - Instruction Begins
- Monday, Sept. 2 - Labor Day
- Tuesday, Sept. 10 – Morning Classes Cancelled (Mass of the Holy Spirit)
- Thursday, Oct. 17 - **Midterm Exam** - 12:25 PM - 1:40 PM, PAC 101
- Monday, Oct. 21 – Founder’s Day Holiday
- Wednesday, Nov. 27 - Friday, Nov. 29 - Thanksgiving Holiday
- Friday, Dec. 6 - Last day of class
- Tuesday, Dec. 10 - **Final Exam** - 3:30 PM - 5:30 PM, PAC 101

No make-up exams

Classroom Etiquette:

- Arrive in class on time
- Turn off cell phones
- No distracting conversations -- **relevant questions are strongly encouraged**

Learning Outcomes for CPEN 430 and CPEN 430L

- Decompose a digital system into data-path and control modules
- Use VHDL to implement logic modules
- Program, integrate and test a digital system on a FPGA chip
- Document the design in a formal report

ADDENDA TO THE SYLLABUS

A NOTE ON HARASSMENT, NON - DISCRIMINATION AND SEXUAL MISCONDUCT:

Consistent with its mission, Gonzaga seeks to assure that all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX and Gonzaga's policy prohibit gender-based harassment, discrimination and sexual misconduct. Gonzaga encourages anyone experiencing gender-based harassment, discrimination or sexual misconduct to talk to someone from the Campus and Local Resources list found in the [Gonzaga's Harassment and Non-Discrimination Policy](#).

It may be helpful to talk about what happened in order to get the support needed and for Gonzaga to respond appropriately. There are options for support and resolution, namely confidential [support resources](#), and campus reporting and support options are available. Gonzaga will respond to all reports of sexual misconduct in order to stop the harassment, discrimination, or misconduct; prevent its reoccurrence; and address its effects. Responses may vary from support service referrals to formal investigations.

As a faculty member, I want to get you connected to the resources here on campus specially trained in and experienced in assisting in such complaints, and therefore **I will report all incidents of gender-based harassment, discrimination and sexual misconduct to Title IX**. A representative from that office will reach out to you via phone and/or email to explore options for support, safety measures and reporting. I will provide our Title IX Director with all relevant details, including names and identifying information, of the information reported. For more information about policies and resources or reporting options, please visit the following websites: [Equity and Inclusion](#) and [Title IX](#). If you would like to make a report of harassment, discrimination or sexual misconduct directly, you may:

- Contact the Title IX Director by phone, email, or in person

Stephanie N. Thomas, Title IX Director 509-313-6910
whaleys@gonzaga.edu
Business Services Building, 018

- Or complete an online form: [Sexual Misconduct Report Form](#)

NOTICE TO STUDENTS WITH DISABILITIES/MEDICAL CONDITIONS:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability/medical condition requiring an accommodation, please call or visit the [Disability Access Office](#) (second floor of Foley Center Library, Room 208.)

CLASS ATTENDANCE:

I follow Gonzaga's standard policy on absences: the maximum allowable absence is two class hours (100 minutes) for each class credit. For three-credit classes, the maximum absence is, therefore, six class hours (300 minutes). The grade for excessive absences is "V," which has the same effect as "F" (Fail) and is counted in the GPA.

ACADEMIC INTEGRITY

All members of the Gonzaga community are expected to adhere to principles of honesty and integrity in their academic endeavors. You are expected to be familiar with the [University's Academic Integrity Policy](#) and the potential sanctions for violating it. I will abide strictly by this policy's procedures and guidelines. Ignorance of the policy will not serve as a defense against any violations.

RELIGIOUS ACCOMMODATIONS FOR STUDENTS

In compliance with Washington State law (RCW 28.10.039), it is the policy of Gonzaga University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. [The Policy on Religious Accommodations for Students](#) describes procedures for students requesting a Religious Accommodation and for faculty responding to such a request.

COURSE EVALUATION:

At Gonzaga, we take teaching seriously, and we ask our students to evaluate their courses and instructors so that we can provide the best possible learning experience. In that spirit, we ask students to give us feedback on their classroom experience near the end of the semester. I will ask you to take a few minutes then to carry out course/instructor evaluation on-line. Please know that I appreciate your participation in this process. This is a vital part of our efforts at Gonzaga to improve continually our teaching, our academic programs, and our entire educational effort.