

# Course Syllabus

Welcome to Digital System Design. This course provides you with an introduction to the subject of combinational and sequential logic circuits and shows you how to design logic circuits using classical methods as well as hardware description language for modern computer aided design (CAD) tools. As such, even though it will provide only moderate depth on a wide variety of fundamental topics, it will retain full technical rigor throughout.

**Topics:** include number systems; Boolean algebra; analysis, design, and minimization of combinational logic circuits; analysis and design of synchronous and asynchronous finite state machines; and introduction to VHDL and behavioral modeling of combinational and sequential circuits.

**ECE332:** This lab course should be taken concurrently with ECE331. It emphasizes the lecture material of ECE331 through the use of logic synthesis and simulation software, breadboarding and testing digital circuits and exploring the fundamental electrical characteristics of logic gates.

<b>Faculty:</b>	Jens-Peter Kaps	ST2-213	jkaps@gmu.edu
<b>Teaching Assistants:</b>	Shashi Karanam	Recitation and Grader	skaranam@gmu.edu
	Shaunak Shah	Laboratory	sshaha@gmu.edu
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**Lectures:** 3:00 – 4:15 pm, Monday and Wednesday R-B228

**Recitations:**

Section 301	1:30 – 2:20 pm, Wednesday	ENT-279
Section 302	1:30 - 2:20 pm, Friday	ENT-279
Section 303	3:30 – 4:20 pm, Friday	KH-209

**Textbook:** Fundamentals of Digital Logic with VHDL Design with CD-ROM by Stephen Brown, Zvonko Vranesic, McGraw-Hill Science/Engineering/Math; 3rd edition (April, 2009), ISBN 978-0-07-722143-0

## Office Hours:

Please check the class web page for the current office hour schedule. You should feel free to approach Dr. Kaps and the TAs at any time if you need help in addition to the scheduled sessions. The best way to contact us is via e-mail.

## Recommended Background:

- [ECE 280](#) Electric Circuit Analysis
- [ECE 332](#) Digital Electronics and Logic Design Lab (can be taken concurrently)

## Attendance

Attendance at recitation is required and will be randomly recorded throughout the semester by the recitation instructor Attendance is not taken at lecture but class participation will be noted by the instructor.

You are responsible for all material presented in class and in the textbook.

**Homework:**

Homework will be assigned on a weekly basis (12 assignments total). Homework is due on Wednesday and is to be handed in on paper at the **beginning** of class. Homework is very helpful in preparation for exams and is required to achieve an 'A' in this class. Homework must be handed in on time to receive credit. **No late submission** is possible.

**Exams:**

There will be two exams during the course. Exams will be **closed book**.

A single (two-sided) blank note card (3" x 5") will be provided by the instructor on which you can write down **your own notes**. You are not allowed to use more than one card or to attach anything to this card. Your notes have to be hand written.

There will be NO make-up exams. (See Dr. Kaps for an exception.) Students who are more than 15 minutes late for an exam may not be admitted and will be assigned a grade of zero for the exam.

- **Midterm Exam:** Tuesday October 14<sup>th</sup>.
- **Final Exam:** Wednesday December 10<sup>th</sup>.

**Grading:**

The final grade is based on a weighted sum of your performance in exams, homeworks, recitations and class participation:

	Total
Midterm Exam	35%
Final Exam	40%
12 Homeworks	20%
Class participation / Recitation	5%
	100%

**Honor Code:**

All rules of the GMU Honor Code system will be in effect. You must review the rules and be familiar with them.

You are encouraged to discuss homework problems with other students and/or obtain the assistance of the recitation instructor. Nevertheless, please write down your own solutions which represent your understanding of the material. Duplicating someone else's homework solutions, hardware/software designs, diagrams, source code, and exam notes is considered cheating. If you use material from other sources such as but not limited to the web, books, journals, data sheets, etc. you must reference the source. Honor code violations will be followed up with full force.

**Classroom Etiquette**

Cellphones have to be turned off during class or at least put into silent mode. If you have an emergency need to answer a call please quietly leave the room **BEFORE** answering the call.

Lectures may not be recorded without express written permission from the instructor.

**Students with Disabilities**

If you need special assistance, please inform the instructor soon so that we can work something out.

The Course Syllabus is Subject to Change