James Madison University

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Digital Technology

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| Class Location: EnGeo2022 | Class Time: 1:00PM-3:00PM |
| Office location: EnGeo2209 | E-mail: karan.r.nair@gmail.com |
| Virtual office hours(Zoom) Meeting ID: 769558 Passcode: checkout | Office hours: 11:00AM-12:00PM |

Course Description  
Introduces digital systems, circuits, and computers. Topics include binary systems and codes, digital logic gates and circuits, microelectronics and integrated circuits, coding and multiplexing, multivibrators, shift registers, counters, A\/D converters, and elementary computer architecture.  
  
Lab Policy  
The laboratory experiments complement the material covered in the lectures and in the assigned readings. They focus on the historical design methodology, making use of discrete components, a breadboard, and circuit wiring to realize combinational and sequential logic circuits. Each experiment will provide hands-on experience with one or more of the concepts covered in class. The labs will be performed in-person using lab components in EnGeo 0009 and using EasyEDA online tool https:\/\/easyeda.com\/ You are expected to be prepared for each lab. This includes review of the associated lecture materials, completion of the associated reading, and, most importantly, completion of the pre-lab. You will NOT be allowed to participate in the lab unless you have completed the pre-lab. You will be expected to complete a lab report for each laboratory experiment. The laboratory experiments are administered by the instructor who will provide additional materials regarding the lab, including the lab schedule, pre-lab requirements, and lab report guidelines.  
  
Expectations  
Fundamentals of Digital Logic with VHDL Design, 3rd Edition by Stephen Brown and Zvonko Vranesic  
  
Attendance  
Attendance is mandatory. You cannot receive credit for in-class exercises if you are absent from class. You are responsible for all material covered in class and in the assigned reading. The class meets twice a week through in either the lab or the classroom (check the schedule for the specific dates). Should you miss class, you must con-sult with one of your classmates to obtain the missed material. If you miss more than 3 classes, you will receive a zero for attendance. Any further absences will result in further point deduction from the overall course points. Special circumstances and illness will be dealt with on individual basis.  
  
Grading  
Yes  
  
Disability Services  
If you are a student with a documented disability who will be requesting accommodations in my class, please make sure you are registered with JMUs Office of Disability Services (www.jmu.edu\/ods\/, 107 Wilson Hall, 568-6705) and provide me with an Access Plan letter outlining your accommodations. I will be glad to meet with you privately during my office hours to discuss your special needs.  
  
Honor Code  
You are expected to abide by both the JMU Honor Code and the JMU Appropriate Use of Information Technology Resources Policy. Please familiarize yourself with these documents. JMUs Honor Code prohibits unauthorized sharing and use of electronic or printed material. Others work used in relation to your Project must be properly cited. Citation assistance is available from the Library and from JMUs Writing Center. Protect your work knowingly providing access to your work and unauthorized use of another persons work are both violations of the JMU Honor Code. A JMU degree is a valuable commodity. Please dont diminish the value of your degree by participating in or ignoring others dishonest actions. Use good judgment and insist that others do the same. I will gladly answer questions you have about applying the Honor Code, Appropriate Use Policy, and Academic Honesty to this course. Do NOT cheat -- I will take appropriate action if I detect any instances of unauthorized collaboration or assistance. At a minimum this will result in a report to the JMU Honor Council and a reduction in your course grade.  
  
Final Exam  
No  
  
Inclement Weather  
Class will be online if there is inclement weather  
  
Withdrawals  
  
  
Lecture Schedule

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| Date | Topic | HW due | Lab due | Quiz | Exam |
| 1/17 | Intro week |  |  |  |  |
| 1/19 |  | HW1 |  |  |  |
| 1/24 |  |  | Lab 1 |  |  |
| 1/26 |  |  |  | Quiz 1 |  |
| 1/31 |  | HW2 |  |  |  |
| 2/2 |  |  | Lab 2 |  |  |
| 2/7 |  |  |  | Quiz 2 |  |
| 2/9 |  | HW3 |  |  |  |
| 2/14 |  |  | Lab 3 |  | Exam 1 |
| 2/16 | Holiday |  |  |  |  |