

## Digital Electronics Syllabus

Spring\_2023

EE\_252 Digital Electronics

Spring, 2023

WEIR 102

MWF, 10:00 am-10:50 am

**Instructor:** Rene Arechiga

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**Office Hours:** MWTh 13:00pm –14:00 pm or by appointment.

**Course Description:** Fundamental concepts of digital logic analysis and design. Topics include: Boolean algebra, logic gates, truth tables, simplification methods, multiplexers, decoders, registers, sequential digital design, finite state machines, hardware description language (HDL), and related topics.

**Prerequisite:** *EE 211 or ES 332.*

EE\_252 is a requirement for the EE major.

**Course Learning Outcomes:** *[By the end of this course, students should know and be able to apply the fundamental concepts of digital logic analysis and design, including Boolean algebra, logic gates, truth tables, simplification methods, multiplexers, decoders, registers, sequential digital design, finite state machines, hardware description language (HDL), and related topics.*

**Program Learning Outcomes:** <https://www.nmt.edu/academics/eleceng/undergrad/index.php>

### Course Requirements:

#### Text book

Fundamentals of Digital Logic with Verilog Design, Third Edition by Stephen Brown and Zvonko Vranesic, 2014.

#### Tentative Course Schedule:

**Homework:** It will be assigned once per week.

**Quizzes:** There will be a short quiz every other Friday. One quiz will be on the ABET Student Outcome 3 (I-Initial) associated with this course (Student Outcome “3” is defined as: an ability to communicate effectively with a range of audiences).

**Exams:** There will be two or three partial exams (Number and Dates TBD), and a final.

## Grading:

Homework: 20%

Quizzes: 10%

Mid-term exams: 40%

Final exam: 30%

**Academic Honesty:** New Mexico Tech's Academic Honesty Policy for undergraduate and graduate students is found in the catalog, which can be found at:

<https://www.nmt.edu/registrar/catalogs.php/>. Further information about academic honesty can be found on the Associate Vice President for Academic Affairs website:

[https://www.nmt.edu/academicaffairs/avpaa/academic\\_honesty.php](https://www.nmt.edu/academicaffairs/avpaa/academic_honesty.php)

You are responsible for knowing, understanding, and following this policy.

**Reasonable Accommodations:** New Mexico Tech is committed to protecting the rights of individuals with disabilities and providing access and full participation in the educational experience. Students with disabilities who require reasonable accommodations are invited to make their needs known to the Office for Student Access Services (SAS) as soon as possible. Accommodations are not retroactive and may take some time to implement. The process for requesting accommodations can be found at their website <https://www.nmt.edu/ds/academicaccommodations.php>.

You can contact SAS in person at the Fidel Center Room 245, call 575-835-6209, email [access@nmt.edu](mailto:access@nmt.edu) or book through the link on our [website](#).

**Counseling Services:** New Mexico Tech offers individual and couples counseling, safety assessments, crisis intervention, outreach and consultations through the Counseling Center. These confidential services are provided free of charge by licensed professionals. Please note that **changes in the** delivery of counseling services **may still be on going**. For more information on how to access services, please call 835-6619, email [counseling@nmt.edu](mailto:counseling@nmt.edu) or check out our website at <https://www.nmt.edu/cds/>.

**Respect Statement:** New Mexico Tech supports freedom of expression within the parameters of a respectful learning environment. As stated in the *New Mexico Tech Guide to Conduct and Citizenship (Student Handbook)*: "New Mexico Tech's primary purpose is education, which includes teaching, research, discussion, learning, and service. An atmosphere of free and open inquiry is essential to the pursuit of education. Tech seeks to protect academic freedom and build on individual responsibility to create and maintain an academic atmosphere that is a purposeful, just, open, disciplined, and caring community."

**COVID-19 and other Health-Related Safety Issues for Face-to-Face Instruction:** Please note: provisions on masks, vaccines or other possible COVID-related requirements are subject to change as the situation evolves, based on guidance from the Centers for Disease Control, the State of New Mexico, and university officials (i.e., the President and the Board of Regents). For the most up-to-date guidelines, please consult NMT's COVID-19 information page: <https://www.nmt.edu/covid19/>.

Students should not come to class if they are feeling ill and should follow any quarantine guidelines that they are given in the event of exposure to COVID-19. If you are sick, you should contact your instructor immediately with a request for making up any missed work and assignments, contact the Student Health Center, and consider getting tested for COVID-19 (as applicable). Please note the Student Health Center does not provide sick notes to students who are not seen by them.

**Title IX Reporting:** Sexual misconduct, sexual violence and other forms of sexual misconduct and gender-based discrimination are contrary to the University's mission and core values, violate university policies, and may also violate state and federal law (Title IX). Faculty members are considered "Responsible Employees" and are required to report incidents of these prohibited behaviors. Any such reports should be directed to Tech's Title IX Coordinator (Dr. Peter Phaiiah, 122 West Hall, 575-835-5953 (O), 575-322-0001 (C), [titleixcoordinator@nmt.edu](mailto:titleixcoordinator@nmt.edu)) or reports can be filed online to [Tech's Title IX & Sexual Misconduct Report](#). Please visit [Tech's Title IX Website](#) ([www.nmt.edu/titleix](http://www.nmt.edu/titleix)) for additional information and resources.

**Student Success:** New Mexico Tech offers numerous peer tutoring services for students who are struggling in their courses, or who just wish to receive friendly advice, including the Office of Student Learning (Skeen Library, <https://www.nmt.edu/osl/>), the Writing and Communication Lab (Skeen Library, <https://www.nmt.edu/academics/class/center.php>), and numerous department-run centers. These services are free of charge to students! **Students may also consult the Associate Dean of Student Success, Elaine Debrine Howell ([elaine.debrinehowell@nmt.edu](mailto:elaine.debrinehowell@nmt.edu)) or may receive emails from her if they are struggling in class.**

To read about the services a student will need to be successful **visit MyNMT:**  
<https://www.nmt.edu/mynmt.php>