

**University of Texas at El Paso**  
**EE 2369: Digital Systems Design I**  
**Summer 2017**

**CRN: 32211**

**Class time: MTWRF 9:20AM-11:30AM**

**Classroom: EDUC 309**

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**Instructor** Professor Miroslava Barúa

**Phone** (915) 747-5720

**Office** E320 (Engineering Bldg.)

**E-mail** miroslav@miners.utep.edu

**Office Hours** MW 11:30AM –12:30PM or by appt.

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### Required Course Materials

**Textbook:** zyBooks – Digital Design

1. Sign up at **learn.zybooks.com** using your **miners** e-mail account
2. Enter zyBook **code** (Code provided in class, instructions on Blackboard too)
3. Click *Subscribe*

**Use of @miners e-mail account and Blackboard** for class resources, announcements and submitting certain assignments.

**Course Description:** In Digital Systems Design I you will learn about design and synthesis of digital systems using both combinational and sequential circuits

**Prerequisite:** EE 1305 or CS 1401 with a grade of "C" or better.

**Co-requisite:** EE 2169 (Lab for EE 2369). Hardware projects and software simulation projects are performed in this lab associated with our class. Student is responsible for completing the labs, and meeting with the Teaching Assistant at the formally scheduled time assigned to the section in which the student registered. Please note that the lab is 1 credit hour, and the grade for that lab is calculated separately from the grade in this class.

### Students successfully completing EE 2369 will be able to:

1. Apply concepts of number systems to perform binary arithmetic and conversions
2. **Analyze & synthesize digital circuits, both combinational & sequential**
3. Design combinational circuits, such as binary adders, code converters, etc., by using logic gates
4. Design sequential circuits, such as counters, registers, etc., by using flip-flops and other hardware
5. Design, simulate or implement, and test digital circuits both hands-on (using physical devices) and with CAD tools
6. **Solve engineering problems with the Algorithmic State Machines (ASM) technique**
7. **Design, simulate, and test digital circuitry using Verilog Hardware Description Language**
8. Design, implement, and test digital circuitry by prototyping designs using the selected development system

## Grading & Course Assignments

There will be no curving of grades in this course.

**Grading** will be based on the standard scale:

90% >.....**A**  
80% -89%.....**B**  
70% -79%.....**C**  
60% -69%.....**D**  
Below 59%.....**F**

Course Assignment Distribution:	
3 Exams (equally weighted 26% each)	78%
Homework & Quizzes	17%
Instructor Assessment	5%

**Exams:** Each exam (1, 2 and final) will assess your knowledge of the digital systems design techniques studied during each period of the course. All exams are closed book/closed notes and no calculators are allowed. I expect you to use your own class notes, problem sets, quizzes, handouts and textbook as your study guide. **No make-up exams will be given.** If there is an extenuating circumstance that can cause a student to miss one examination and the circumstance warrants an excused absence (by providing a medical excuse signed by physician or signed letter from boss on a company's letterhead), a COMPREHENSIVE make-up exam will be given at the end of the semester to replace that missed exam. The student will take both the final exam (exam #3) and the comprehensive exam on Monday July 10, 2017.

**Homework:** A significant portion of your content mastery depends on completion of homework assignments. Homework assignments will include reading the textbook prior to class, completing participation and challenge activities, completing any individual or group problem sets. **You must complete your ZyBook-homework by 9:00AM before the beginning of the class (or by the announced due date if differently for a particular assignment).** **Late homework will not be accepted.** In the case of illness or an emergency; you are responsible for notifying me as soon as possible (**before class**) of the situation (illness or emergency). Good homework presentation, including neatness and legibility, are expected and required.

**Quizzes:** Random quizzes will be given to assess your basic understanding of the class topics or completion of reading assignments. Quizzes may be given at the beginning of the class or at any point during the session. No make-up quiz will be given if you are late or absent for any reason.

**Extra credit:** Extra credit assignments are not expected. In case the instructor decides to give some extra credit, it will be assigned to the ENTIRE CLASS ONLY. No individual can request to present work for extra credit.

## Learning Environment

**Prepare in advance:** In order to be successful, each student must come to class prepared to participate. This means that you must complete reading assignments, homework, and other assignments **BEFORE** you arrive to the classroom. Coming to class late is unprofessional and is very disruptive to the class. If you are late to class, you are to come in quietly and take your seat but DO NOT attempt to turn in assignments.

### Classroom Etiquette/ Student Conduct:

You must be courteous, respectful and professional in the way you address others; either in person or in writing. **All submitted work must have Student's Name, Class Name & Section and Due date.**

### E-mail Communication:

For all your class related e-mails use the prefix "**EE2369:**" followed by the rest of the message's subject description (Example: "**EE2369: Question about homework**").

### Course & University Policies

**Mandatory Attendance:** Attendance is the key to your academic success. If you miss a class session, you are responsible for obtaining notes, handouts, and assignments and for meeting the same deadlines as the rest of the class. If you have an excessive amount of absences from class I will ask you to meet with me to discuss your progress in the class, and **you may be dropped from the course**. The grade that you receive will be a **W** until **June 30, 2017, course drop deadline**. **After this date**, the grade **you receive will be an F**, and only under exceptional circumstances a W.

**Electronic Devices:** Use professional discretion with electronic devices by shutting them off, or setting them to mute before coming to class. **Do not use text messaging, web browser or camera features while in class.**

#### Center for Accommodations and Support Services (CASS):

Students requiring unique accommodations must contact the CASS office and provide their instructor with the proper documentation at the beginning of the semester. CASS office may be contacted at 747-5148, [cass@utep.edu](mailto:cass@utep.edu) or go to Room 106 Union East Building

#### Scholastic Integrity/Academic Honesty:

Any form of academic dishonesty **will not be tolerated**. "Plagiarism" is the unattributed use of someone else's work -- a classmate's, a website's, even a teacher's from another course. In accordance with University regulations, scholastic dishonesty on a given assignment **will** be subject to disciplinary action and **will** be referred to the Dean of Students. Dishonesty/cheating/plagiarizing may result in a zero on the assignment, an "F" in the course, or even suspension from the university. If you need assistance with your assignments, please consult authorized sources of help. For more information on Scholastic Dishonesty and/or Plagiarism, consult the [Handbook of Operating Procedures: Student Affairs](#), which is available in the Office of Student Life.

### Tips for Success in this class:

1. Come to class, take good notes and keep everything organized.
2. Read and study textbook, hand-outs, and complete reading assignments **before** class.
3. Visit instructor during office hours if you need assistance, or use e-mail to set up an appointment
4. Finish your assignments early.
5. Don't cram for examinations; start your success by not falling behind!

### Important Dates:

#### Summer 2017

Classes begin	Jun 12	Last day of classes	July 7
Course Drop deadline	Jun 30	<b>Our Final Exam</b>	<b>Monday, July 10<sup>th</sup>, 10:00am-12:45pm</b>
Independence Day (no classes)	July 4		

### Course Schedule:

This schedule will be available as a separate document highlighting key assignments, deadlines, and activities. Such document is subject to changes at the discretion of the instructor to adapt to the needs of the class.