

## EE 2181 EE LAB: DIGITAL COMPUTER LOGIC

**Course Syllabus**  
**16 Jan 2007**

**Professor Jim Dunham**  
**TA – Yasser Ghanbari**  
**Spring 2007**

**Course Description:** Analysis and synthesis of combinational and sequential digital circuits. Basic digital computer logic circuits are designed, simulated using Verilog HDL and implemented using a Digi-Designer kit and integrated circuits. Concurrent registration in EE 2381.

**Restrictions:** Concurrent Registration: EE 2381 *Digital Computer Logic*

**Credit:** 1 Term-Credit Hours (TCH)

**Reference:** *Digital Design*, M. Morris Mano, Third Edition, Prentice Hall, Inc., reprinted with corrections 2002. ISBN 0-13-062121-8

**Labs:** Section L02 Th 2:00 PM – 4:50 PM Junkins Building 215

**TA Office Hours:** Tu 11:00 – 11:50 am & 4:00 – 4:50 pm  
W 1:00 – 1:50 pm  
By Appointment

**TA Office Location:** Junkins Building 320  
Office Phone 214-768-3783  
Email [yghanbari@mail.smu.edu](mailto:yghanbari@mail.smu.edu)  
Class Web Site <http://www.engr.smu.edu/~jgd/ee2181>

**Calendar:**

Tuesday	January 16	First Day of Instruction
Wednesday	January 31	Last Day to Declare Pass/Fail
	March 12-17	Spring Break
Wednesday	April 4	Last Day to Drop a Course
Friday	April 6	University Holiday – Good Friday
Monday	April 23	Last Day to Withdraw from the University
Tuesday	May 1	Last Day of Instruction
Wednesday	May 2	Reading Day
Thursday	May 3	Reading Day
Monday	May 7	Final Exam 11:30 a.m. – 2:30 p.m.

**Grading Policy:** Lab Reports 100 %

Refer to Laboratory 1 – Laboratory Orientation for grading details.

Disability Accommodations:	If you need academic accommodations for a disability, you must first contact Ms. Rebecca Marin, Coordinator, Services for Students with Disabilities (214-768-4557) to verify the disability and to establish eligibility for accommodations. Then you should schedule an appointment with me so that appropriate arrangements can be made. (Refer to University Policy No. 2.4.)
Religious Observance:	Religiously observant students wishing to be absent on holidays that require missing class should notify me in writing at the beginning of the semester, and should discuss with me, in advance, acceptable ways of making up any work missed because of the absence. (Refer to University Policy No. 1.9.)
Excused Absences for University Extracurricular Activities:	Students participating in an officially sanctioned, scheduled University extracurricular activity will be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with me prior to any missed scheduled examination or other missed assignment for making up the work. (Refer to University Undergraduate Catalogue)
Incomplete Policy:	An Incomplete (I) may be given if the majority of the course requirements have been completed with passing grades but for some justifiable reason, acceptable to the instructor, the student has been unable to complete the full requirements of the course. Before an (I) is given, the instructor should stipulate, in writing, to the student the requirements and completion date that are to be met and the grade that will be given if the requirements are not met by the completion date. The maximum period of time allowed to clear the Incomplete grade is 12 months (except for graduate thesis and dissertation courses). If the Incomplete grade is not cleared by the date set by the instructor or by the end of the 12-month deadline, the (I) may be changed to an F or to another grade specified by the instructor. The grade of (I) is not given in lieu of an F, WP, or other grade, each of which is prescribed for other specific circumstances. If the student's work is incomplete and the quality has not been passing, an F will be given. The grade of (I) does not authorize the student to attend the course during a later semester. Graduation candidates must clear all Incompletes prior to the deadline in the official University Calendar, which may allow less time than 12 months. Failure to do so can result in removal from the degree candidacy list and/or conversion of the (I) to the grade indicated by the instructor at the time the (I) was given.

Academic  
Honesty:

Academic dishonesty may be defined broadly as a student' misrepresentation of his or her academic work or of the circumstances under which the work is done. This includes plagiarism in all papers, projects, take-home exams, or any other assignments in which the student represents work as being his or her own. It also includes cheating on examinations, unauthorized access to test materials, and aiding another student to cheat or participate in an act of academic dishonesty. Failure to prevent cheating by another may be considered as participation in the dishonest act.

The Honor Code  
of Southern  
Methodist  
University:

The Honor Code is posted at [www.smu.edu/studentlife/PCL\\_05\\_HC.asp](http://www.smu.edu/studentlife/PCL_05_HC.asp) and states:

“Intellectual integrity and academic honesty are fundamental to the processes of learning and of evaluating academic performance, and maintaining them is the responsibility of all members of an educational institution. The inculcation of personal standards of honesty and integrity is a goal of education in all the disciplines of the University.

“The faculty has the responsibility of encouraging and maintaining an atmosphere of academic honesty by being certain that students are aware of the value of it, that they understand the regulations defining it, and that they know the penalties for departing from it. The faculty should, as far as is reasonably possible, assist students in avoiding the temptation to cheat. Faculty members must be aware that permitting dishonesty is not open to personal choice. A professor or instructor who is unwilling to act upon offenses is an accessory with the student offender in deteriorating the integrity of the University.

“Students must share the responsibility for creating and maintaining an atmosphere of honesty and integrity. Students should be aware that personal experience in completing assigned work is essential to learning. Permitting others to prepare their work, using published or unpublished summaries as a substitute for studying required materials, or giving or receiving unauthorized assistance in the preparation of work to be submitted are directly contrary to the honest process of learning. Students who are aware that others in a course are cheating or otherwise acting dishonestly have the responsibility to inform the professor and/or bring an accusation to the Honor Council.

“Students and faculty members must mutually share the knowledge that any dishonest practices permitted will make it more difficult for the honest students to be evaluated and graded fairly and will damage the integrity of the whole University. Students should recognize that both their own interest, and their integrity as individuals, suffer if they condone dishonesty in others.”

The Honor System:

The *2006-07 SMU Undergraduate Catalog* states:

“All students at SMU, with the exception of those enrolled in School of Law, Perkins School of Theology, and Cox M.B.A. School, are subject to the jurisdiction of the Honor Code and as such will be required to sign a pledge to uphold the Honor Code ([www.smu.edu/studentlife](http://www.smu.edu/studentlife)). The Honor Council is composed of approximately 27 students selected through an application and interview process by the Honor Council Executive Board and five faculty members nominated by the Faculty Senate. The council's responsibility is to maintain and promote academic honesty.

“Academic dishonesty is defined broadly as a student's misrepresentation of his or her academic work or of the circumstances under which that work is done. This includes plagiarism in all papers, projects, take-home exams, or any other assignments in which the student submits another's work as being his or her own. It also includes cheating on examinations, unauthorized access to test materials, and/or assisting another student in gaining any unfair academic advantage. Lastly, it includes academic sabotage, defined as intentionally taking any action that negatively affects the academic work of another student. Failure to prevent or report academic dishonesty by another may be considered participation in a dishonest act.

“Suspected cases of academic dishonesty may be handled administratively by the appropriate faculty member in whose class the alleged infraction occurred or referred to the Honor Council for resolution. Suspected violations reported to the Honor Council by a student or by an instructor will be investigated and, if the evidence warrants, a hearing will be held by a Board composed of at least five members of the Honor Council.

“Any appeal of an action taken by the Honor Council shall be submitted to the University Judicial Council in writing no later than four calendar days (excluding school holidays) after notification of the Honor Council's decision.”

Lab Schedule:

<b>Period</b>	<b>Date</b>	<b>Lab</b>	<b>Lab Title</b>
2	01/18	1	Laboratory Orientation
4	01/25	2	Digital Logic - Basic Gates
6	02/01	3	Digital Logic - Circuits
8	02/08	4	Digital Logic - Gate Delays
10	02/15	5	Combinational Logic Design
12	02/22	6	Multiplexers and Demultiplexers - Part I
14	03/01	7	Multiplexers and Demultiplexers - Part II
16	03/08	8	Dataflow Modeling and UDPs
	03/13		<b><i>Spring Break</i></b>
	03/15		<b><i>Spring Break</i></b>
18	03/22	9	Set-Reset Latch
20	03/29	10	Counter Design Using J-K Flip-Flops
22	04/05	11	Master-Slave J-K Flip-Flop
24	04/12	12	Sequential Network Design
26	04/19	13	Shift Registers
28	04/26		<b><i>Free</i></b>