ETec273 Course Syllabus

Course: ETec273 - Digital Electronics **Quarter:** Winter 2008 **Credits:** 4

Instructor: Todd Morton **Office:** ET313 **Phone:** 650-2918

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Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
3-4pm	3-5pm	3-4pm	9-10am, 3-5pm	

Course Description: Introductory digital electronics with emphasis on basic digital concepts, Boolean algebra, digital integrated circuit devices and the major functional units from building block approach. Laboratory with applications, constructing, testing and troubleshooting of digital circuits.

Prerequisites: ETec271, EET major or written permission.

Prerequisite Material: Basic circuit analysis, including series/parallel circuits, super position, Norton and Thevenin equivalent circuits.

Texts: "Digital Fundamentals", 9th Edition, Thomas Floyd

Software: LogicWorks (Optional)

E-mail/Listservs: etec273@etec.wwu.edu - Required

Web Services: http://eet.etec.wwu.edu - Required

References: "LogicWorks 5", Capilano Computing/Prentice-Hall (Optional)

Required Components and Evaluation:

Homework, Quizzes ..... ~25%
Laboratory ..... ~25%
Midterm Exams ..... ~30%
Final ..... ~20%
(All sections must be satisfactorily completed for a passing grade.)

Homework Policy: Late homework is NOT accepted. Solutions are handed out on the due date.

Lab Policy: 10 points possible for 1-week labs, 15 points for 2-week labs
-5%/day late for lab check-off and write-up
Maximum late penalty: -50%

Plagiarism: All assignments, programs and exam work must be completed individually. The University plagiarism rules are strictly enforced in this course. Plagiarized material can result in loss of all laboratory points and/or an F for the course. (Refer to 'Appendix D - Academic Dishonesty Policy and Procedure' in Western's Bulletin)

Schedule *(Subject to Change)*

Jan 9:	Introduction, Analog/Digital Signals Ch 1
Jan 10:	No Lab Meeting
Jan 11:	Digital Technologies
Jan 14:	Number Systems – Binary Integers, Fractions, Mixed Numbers. Ch 2.
Jan 16:	Signed binary numbers, Hexadecimal Numbers, Conversion, Addition, Subtraction
Jan 17:	Lab1
Jan 18:	Homework #1 Due
Jan 21:	Holiday
Jan 23:	BCD, Grey Code, ASCII, Parity
Jan 24:	Lab2
Jan 25:	Logic Gates – NOT, AND, OR Ch 3
Jan 28:	Logic Gates – NAND, NOR, XOR, Boolean Algebra Ch 4
Jan 30:	Boolean Algebra – Boolean Identities, Perfect Induction, DeMorgan's Theorem
Jan 31:	Lab3
Feb 1:	Midterm 1
Feb 4:	Midterm 1 Solutions, Boolean Algebra – Standard Forms, Karnaugh Maps
Feb 6:	Karnaugh Maps – SOP form.
Feb 7:	Lab4
Feb 8:	Karnaugh Maps – Don't Cares, POS form.
Feb 11:	Combinational Logic Analysis – NAND, NOR Logic Ch 5
Feb 13:	Bubble Matching and Manipulation.
Feb 14:	Lab5
Feb 15:	Combinational Logic Functions Ch 6
Feb 18:	Holiday
Feb 20:	Combinational Logic Functions
Feb 21:	Lab6
Feb 22:	Sequential logic, Flip Flops Ch 7
Feb 25:	Clocked Flip Flops
Feb 27:	Clock Flip Flops
Feb 28:	Lab7
Feb 29:	Midterm 2
Mar 3:	Midterm 2 Solutions, Counters Ch 8
Mar 5:	Counters Ripple, Synchronous
Mar 6:	Lab8
Mar 7:	Counter Decoding
Mar 10:	Shift Registers Ch 9
Mar 12:	
Mar 13:	Lab9
Mar 14:	
Tues, Mar 18: Final, 10:30-12:30am	