

# MAYLAND COMMUNITY COLLEGE



**ELN 133 10**  
**01-07-07**

**PO Box 547**  
**or**  
**200 Mayland Drive**  
**Spruce Pine, NC 28777**  
**828-765-7351 or 1-800-462-9526**  
**mayland.cc.nc.us**

**MAYLAND COMMUNITY COLLEGE  
Welcomes You To:**

**ELN 133 10  
Digital Electronics  
Credit: 4 Contact: 6**

**Course Description**

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AC/DC converters, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment

**Prerequisites:**

**Corequisites :**

**Instructor Information**

<b>Instructor:</b>	David Pittman
<b>Office Location:</b>	103b
<b>Telephone Number:</b>	765-7351 ext. 284
<b>E-mail Address:</b>	dpittman@mayland.edu
<b>Office Hours:</b>	Tuesdays & Thursdays 10:30 – 11:00 Wednesdays 4:00 – 5:00 Fridays 9:00 – 11:00

**Course Information**

Course meetings: Mondays, Wednesdays 10:00 – 12:50

**Required Text(s):** Tocci, Ronald J., Digital Systems Principles & Applications 9<sup>th</sup> edition, Prentice-Hall Inc., 2001.

**LRC Resources:** none

**Required supplies:** TI 36X calculator

**Course Objectives/Competencies:**

Today, the word *digital* has become part of our everyday vocabulary, because of the dramatic way that digital circuits and digital techniques have become so widely used in almost all areas. Our objective is to gain a thorough understanding of how basic digital

systems work, and you should be able to apply this understanding to the analysis and troubleshooting of any digital system.

### **Attendance Policy/Tardiness/Make-Up Work:**

Prompt and continual attendance is required. All assignments are due 'on time'. Students will receive a zero for any assignment not turned in on time. As for a missed exam, a makeup opportunity will not be allowed, except for authorized excuses (such as notes from a doctor or hospital, proof will be required).

### **Grading Criteria/Tests/Projects:**

Tests	50%
Homework	15%
Lab	35%

### **Grading Scale:**

**A** =>90  
**B** =>80 < 90  
**C** =>70 < 80  
**D** =>60 < 70  
**F** <60

### **Inclement Weather Procedures:**

If we experience dangerous weather conditions do not risk your safety to attend class. Any classes that are missed due to weather will be made up, at a time that is satisfactory to all.

### **Academic Standards/Student Expectations/Ethics:**

Do your own work. Be cordial to and respectful of your classmates. If you cheat on a test, copy someone's homework, or exhibit unethical behavior; you will be subject to one or more of the following: (1) No credit for the assignment/exam and/or (2) removal from the course. If you wish to contest any assertion of failure to meeting academic standards, you may exercise the due process options listed in the Student Handbook.

### **Withdrawal Dates:**

End of unconditional withdrawal:	February 13, 2007
End of conditional withdrawal:	March 27, 2007

## ACADEMIC WITHDRAWAL STATEMENT:

If a student has not been in contact with the instructor and has not attended class for a consecutive two-week period, an administrative withdrawal will be submitted by the instructor.

## ADA Statement

Any student requesting special accommodations for this course due to a disability should apply for services through the SOAR Office or the Counseling Center, which will document the disability. A counselor will then help determine which accommodations, if any, the student needs for success in this course.

## Course Outline/Weekly Topics

Week 1	Digital & analog systems, number systems.
Week 2	Alphanumeric codes, parity.
Week 3	Boolean algebra, OR, AND, & NOT gates.
Week 4	NOR & NAND gates, DeMorgans Theorems.
Week 5	SOP forms, circuit simplification techniques.
Week 6	XOR & XNOR gates, <b>EXAM I.</b>
Week 7	Enable/disable circuits, latches.
Week 8	Flip flops.
Week 9	Flip flop applications.
Week 10	Data storage, microcomputer applications.
Week 11	Digital arithmetic, operations and circuits, <b>EXAM II.</b>
Week 12	Counters and registers.
Week 13	TTL, CMOS, MOSFET circuits, IC interfacing.
Week 14	Decoders, encoders, drivers, comparators.
Week 15	Interfacing, D to A and A to D.
Week 16	Memories, RAM, ROM, DRAM, <b>FINAL EXAM.</b>