

# MAYLAND COMMUNITY COLLEGE



**PHY 152 95**  
**01-04-06**

**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:**

**PHY 152 10  
College Physics II  
Credit: 4 Contact: 5**

**Course Description**

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electrical potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

**Prerequisites:** PHY 151

**Corequisites :** None

**Instructor Information**

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

**Course Information**

**Course meetings:** Tuesdays & Thursdays 8:00 – 10:20  
**Required Text(s):** Physics: Algebra/Trig, Hecht, 3rd edition.  
**LRC Resources:** none  
**Required supplies:** TI 36X calculator

**Course Objectives/Competencies:**

Physics is the study of the material Universe--- all there is. And that's a bold and wonderful agenda. In this class, the second of a two part series, we will begin the study of electricity, magnetism and light. This means that after this class you will be able to, identify, analyze and describe: electrostatic forces, electric fields, electric potential, dc circuits, ac circuits and light.

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

Prompt and continual participation 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	60%
Homework	20%
Labs/Projects/Papers	15%
Participation	5%

### **Grading Scale:**

<b>A</b>	=>90
<b>B</b>	=>80, < 90
<b>C</b>	=>70, < 80
<b>D</b>	=>60, < 70
<b>F</b>	<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:  
End of conditional withdrawal:

Monday February 13, 2006  
Wednesday, March 27, 2006

## **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	Electromagnetic charge, electric force, electric fields.
Week 2	Gauss's Law, electrical potential, capacitance.
Week 3	Direct current, resistance, Ohm's law.
Week 4	Voltage drops & rises, series & parallel circuits.
Week 5	Network analysis, Kirchoff's rules.
Week 6	Magnets and Magnetic fields, <b>EXAM I.</b>
Week 7	Electrodynamics, Ampere's law.
Week 8	Induction, Faraday's law, motional emf.
Week 9	Generators, RLCircuits.
Week 10	ac resistance, inductance and capacitance.
Week 11	RLC ac networks, <b>EXAM II.</b>
Week 12	Transformers, semiconductors.
Week 13	EM waves, energy and irradiance.
Week 14	EM spectrum, propagation of light.
Week 15	Geometric optics, lenses & mirrors.
Week 16	Physical optics, polarization, interference, diffraction, <b>FINAL EXAM.</b>

## **PERSONAL NOTE**

While I have attempted to be as thorough as possible with this syllabus, course procedure may vary from this outline to meet the needs of this particular group.