

**Physics 1422 Laboratory  
Spring 2006**

<b>Instructors</b>	<b>Office</b>	<b>Phone</b>	<b>Email</b>	<b>Meeting Times</b>
Dr. Christian Poppeliers	VIN 124	942.2524 x 230	<a href="mailto:Christian.Poppeliers@angelo.edu">Christian.Poppeliers@angelo.edu</a>	M 2-4:50 pm
Dr. Wayne Keith	VIN 123	942.2524 x 227	<a href="mailto:Wayne.Keith@angelo.edu">Wayne.Keith@angelo.edu</a>	T 2-4:50 pm
Dr. David Bixler	VIN 121	942.2524 x 225	<a href="mailto:David.Bixler@angelo.edu">David.Bixler@angelo.edu</a>	R 2-4:50 pm

**DESCRIPTION:** Required laboratory experience to supplement the Physics 1422 lecture. Physics 1421 is a prerequisite for this course.

**GOALS:** To explore fundamental phenomena related to electricity, magnetism, light and atomic physics through experimental observations and data analysis.

**REQUIRED MATERIALS:**

1. Physics Laboratory Manual, 2nd Ed. David H. Loyd, Saunders College Publishing, 1997, ISBN 0-03-024561-2. Available at bookstore. Note: Original data sheets are required: no copies will be allowed.
2. Graph paper, ruler, and protractor. Graph paper should be millimeter lined (National No. 12-188)
3. Advanced Scientific Calculator: Must be capable of statistical functions such as standard deviation, and linear regression. Check with instructor before buying a new calculator.

**POLICIES:**

You are responsible for studying each lab prior to meeting the class and completing the pre-lab assignment PRIOR to the beginning of the class. The pre-lab assignment will be collected promptly at the beginning of each lab period.

Each lab report is to be completed and handed in at the end of the lab period including all data, calculations, and answers to questions.

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is contained in both print and web versions of the Student Handbook.

Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center, in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

**GRADING:**

Pre-labs will constitute 20% of your final lab grade. Laboratory reports will be 80% of your final lab grade. One pre-lab and one laboratory report will be dropped in the determination of your final lab grade. The final lab grade will count as 25% of your course grade.

**Lab Schedule**

<b>Week</b>	<b>Lab</b>	<b>Lab Title</b>
<b>Jan 17-20</b>		<b>No lab this week</b>
Jan 23-27	26	Equipotentials and Electric Fields
Jan 30-Feb 3	28	Measurement of Electrical Resistance and Ohm's Law
Feb 6-10	31	Voltmeters and Ammeters
Feb 13-17	33	The RC Time Constant
<b>Feb 20-24</b>	35	Magnetic Induction of a Current-Carrying Wire
Feb 27-Mar 3	36	Alternating Current LR Circuits
Mar 6-10	37	Alternating Current RC and LRC Circuits
<b>Mar 13-17</b>	--	<b>SPRING BREAK!!!!</b>
<b>Mar 20-24</b>	--	<b>No lab this week</b>
Mar 27-31	40	Reflection and Refraction with the Ray Box
Apr 3-7	41	Focal Length of Lenses
<b>Apr 10-14</b>	--	<b>Moon Lecture – April 11</b>
Apr 17-21	42	Diffraction Grating Measurement of Light
Apr 24-28	45	Geiger Counter Measurement of a 1/2 Life
<b>May 1-5</b>	--	<b>No lab this week</b>