

Physics 104 Spring 2005
Department of Physical Sciences
Nicholls State University

SYLLABUS
Physics 104 - Basic Physics Laboratory
Section 1T, 7:30 – 10:20 am T
Spring Semester, 2005

INSTRUCTOR: Dr. Jesus Urrechaga-Altuna
Office: 121 Beauregard Hall
Office Hours: 8:35 – 9:30 am & 11:50 – 12:55 pm MWF; 10:30 - 12:55 pm TR
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CATALOG DESCRIPTION: PHYS 104. Basic Physics Laboratory. 1-0-3. Prerequisite: PHYS 103 and credit or registration in PHYS 102. Laboratory experiments in electricity, magnetism, and light. (40.0801).

PREREQUISITE: PHYS 103 and credit or registration in PHYS 102.

REQUIRED TEXT: “PHYSICS 104 Laboratory Manual” by J. Urrechaga.

REQUIRED SUPPLEMENTARY READING: “Physics” by D. C. Giancoli (5th. Edition)

COURSE GOALS AND OBJECTIVES: To use experimental techniques to understand the basic concepts of electricity, magnetism, and light, by means of adequate experiments (a total of 12). To prepare the students to use physics in their own lives and professions. Basic experiments are conducted in a progressive and logical manner, so that the student may develop a total understanding of the principles involved.

EDUCATIONAL COMPETENCIES COVERED: At the completion of the course students should be able to explain and demonstrate the benchmarks related to:

1. the abilities necessary to do scientific inquiry (SI-E-A4 to A7, SI-M-A3 to A8, SI-H-A1 to A7)
2. understanding scientific inquiry (SI-E-B3 to B6, SI-M-B3 to B6, SI-H-B1 to B5)
3. position and motion of objects (PS-E-B1 to B4, PS-M-B1 to B5, PS-H-E1 to E4)
4. energy and its transformations (PS-EC1 to C7, PS-M-C1 to C6, PS-H-F1 to F2, PS-H-G1 to G3)

LABORATORY EQUIPMENT: The course uses basic general physics laboratory equipment and desktop computers.

BREAKAGE FEE: No breakage deposit fee is required.

COURSE CONTENT:**OUTLINE OF EXPERIMENTS**

<u>DATE</u>	<u>LAB EXPERIMENT</u>
Jan 18, 2005	EXP # 1 - Electric Fields.
Jan 25, 2005	EXP #2 - Joule's Law. Heating Effect of an Electric Current
Feb 1, 2005	EXP # 3 - Ohm's Law
Feb 15, 2005	EXP# 4 - Resistors in Series and in Parallel
Feb 22, 2005	EXP # 5 - Ammeters and Voltmeters
Mar 1, 2005	EXP # 6 - The Wheastone Bridge
Mar 8, 2005	EXP # 7 - The Tangent Galvanometer and MIDTERM EXAM
Mar 15, 2005	EXP #8 - Electromagnetic Induction
Mar 22, 2005	EXP #9 - Laws of Reflection and Refraction
Apr 5, 2005	EXP #10 - Thin Lenses
Apr 12, 2005	EXP #11 - Optical Instruments
Apr 19, 2005	EXP #12 - The Spectrometer
Apr 26, 2005	FINAL EXAM (Comprehensive)

GUIDELINES: The following rules should always be kept in mind:

1. The lab report is due at the beginning of the next lab period after performing the experiment and is worth 10 points.
2. Each student, although a member of an experimental group, is to write his/her lab report. If you share the work writing the report, your grade will be zero.
3. A lab report should be concise and well documented.
4. All reports must be returned to the Instructor at the end of the semester. Failure to do so will result in a grade of F.
5. All work stations must be left in proper order, and all broken equipment must be reported to the Instructor.

TESTING: All examinations will be closed book exams. Data and constants will be provided to the students as needed. There will be a midterm exam (100 pts) and a final comprehensive exam (200 pts) during the semester. The final grade will be computed using a 42% weight for the lab reports and a 58% weight for the exams. The grading scale is : A (90-100%) ; B (80-89%) ; C (70-79%) ; D (60-69%); and F (0-59%).

MAKE-UP POLICY: Make-up will be determined by the Instructor on a case-by-case basis.

ACADEMIC HONESTY POLICY: Dishonesty in taking examinations will follow the guidelines set in the "Code of Student Conduct" manual.

ATTENDANCE POLICY: Regular class attendance is essential and mandatory. Class roll is taken every day and attendance recorded. All work missed due to absence is the responsibility of the student to make-up. A total of four unexcused absences will result in the student being dropped from the class with a grade of "F".

DROP DATE: Thursday, April 7, 2005 is the final date to receive an automatic "W" when dropping a course or resigning from Nicholls State University.

DISABLED STUDENTS: Under section 504 of the Rehabilitation Act and the Americans with Disabilities Act, any disabled student has the legal right to special accommodations in attending classes and taking examinations. If you are disabled, please check with the Office of Disabled Student Services (877)-448-4430 located in Peltier Hall, Room 100-A, and I will provide you with the means to receive appropriate accommodations in this course.