

Physics 103 Fall 2004
Department of Physical Sciences
Nicholls State University

SYLLABUS
Physics 103- General Physics Laboratory
Section 1T, 7:30 - 10:20 am T
Fall Semester , 2004

INSTRUCTOR: Dr. Jesus Urrechaga-Altuna
Office: 121 Beauregard Hall
Office Hours: 8:35 - 10:40 am & 11:50 - 12:55 pm MWF; 10:30 – 12:55 pm TR
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CATALOG DESCRIPTION: PHYS 103. Basic Physics Laboratory. 1-0-3. Prerequisite: Credit or registration in PHYS 101. Laboratory experiments in mechanics, heat, and sound.

PREREQUISITE: Credit or registration in PHYS 101.

REQUIRED TEXT: “ SELECTED EXPERIMENTS IN PHYSICS” by NSU Physics Staff, Self Published.

REQUIRED SUPPLEMENTARY READINGS: None

COURSE GOALS AND OBJECTIVES: To use experimental techniques to understand the basic concepts of mechanics, heat, and sound, by means of adequate experiments, in order to prepare the student to use physics in his/her own live and profession. The course uses basic general physics laboratory equipment. No breakage deposit fee is required. These basic experiments (a total of 12) are performed in a progressive and logical manner, so that the student develops a total understanding of the physical concepts involved.

EDUCATIONAL COMPETENCIES COVERED: At the completion of the course the 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-F-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 transformations (PS-E-C1 to C7, PS-M-C1 to C6, PS-H-F1 to F2, PS-H-G1 to G3)
5. the structure of matter (PS-H-C1 to C6)
6. atomic structure (PS-H-B1 to B3)

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 I.
5. All work stations must be left in proper order, and all broken equipment must be reported to the instructor.

COURSE CONTENT:

OUTLINE OF EXPERIMENTS

MIDTERM EXAM - October 5, 2004 (Includes the first six experiments)

Experiments #1 – Measurement.

- 2 - Graphical Interpretation of Experimental Information. The Simple Pendulum
- 3 - The Acceleration due to Gravity.
- 4 - Vector Addition and Subtraction.
- 5 - Work and Energy.
- 6 - Centripetal Force.
- 7 - Moment of Force. Static Equilibrium.
- 8 - The Simple Harmonic Motion of a Spring.
- 9 - Densities of Solids and Liquids.
- 10 - Melde's Experiment.
- 11 - Coefficient of Linear Expansion.
- 12 – Specific Heat of Solids.

FINAL EXAM - TBA (Comprehensive – Experiments 1 through 12).

TESTING: All examinations will be closed book exams. Data and constants will be provided to the students as needed. There will be a midterm and a final exam. The midterm exam will be worth 100 points and it will consist of the first six experiments performed. The final exam will be worth 200 points and it will be comprehensive. Each lab report will be worth 10 points. The exams will count for 60% and the lab reports for the 40% of the final grade, with a grading scale of: 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 everyday and absences 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: Friday, October 29, 2004 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 at (985)-448-4430 located in Peltier Hall, Room 100-A, and I will provide you with the means to receive appropriate accommodations in this course.