Physics 101-Basic Physics I  
WWP—Fall 2015

Dr. Chad Young  
Office: 138 Beauregard Hall  
Office hours: see schedule on class website  
Phone: 985-448-4879 (work)  
E-mail: chad.young@nicholls.edu  
Web: http://www.nicholls.edu/phsc-faculty/cyoung

**Catalog Description:** Phys 101. Basic Physics. 3-3-0. Prerequisite: MATH or placement in MATH 165. A study of mechanics, heat, and sound; course designed for students not majoring in chemistry or physics. Credit toward graduation may be earned in this course or in PHYS 201 but not in both. Students enrolled in this course should schedule PHYS 103.  
**Prerequisite:** MATH 102 or placement in MATH 165.  
**Class Materials:** A book is available at amazon.com. This book contains all course notes, homework problems, and practice exam questions. The book is at:

http://goo.gl/dNnlOv

Course documents will periodically be placed on the Moodle site for download.  
The course website will hold all public course materials:  
http://www.nicholls.edu/phsc-faculty/physics/phys101/

**Online Lectures:** The student can find online lectures at the above website; just follow the link called “Online Participation for PHYS 101-WWP.” These lectures will follow the workbook (listed above), so the student can watch the lectures and fill in the blanks and work practice problems. Occasionally, a link for an informational YouTube video will pop up.

**Student Outcome Objectives:**
- PHYS 101, as a Core Curriculum course, fulfills three hours of general education requirements in the area of the natural sciences and is thus designed to enable students to meet the following broad outcomes for all the natural sciences:
  - Upon completion of the undergraduate curriculum, students will be able to comprehend and to apply the basic principles of science and methods of scientific inquiry.
  - Graduates will be able to comprehend and to use quantitative concepts and methods to interpret and to critically evaluate data and to effectively problem-solve in a variety of contexts demanding quantitative literacy.
  - Graduates will be able to comprehend and to apply the basic principles of science and methods of scientific inquiry.
  - For further explanation of the learning objectives associated with these goals, visit http://www.nicholls.edu/gened/goals_objectives.html.
- The student will demonstrate a conceptual and mathematical understanding of motion and vectors in 1 and 2 dimensions.
- The student will apply the concepts of energy and momentum (in 1 dimension) to problems involving one or more bodies in motion.
- The student will be able to mathematically and conceptually describe the behavior of bodies in rotational motion.
- The student will demonstrate knowledge of thermodynamics and its applications to gases, solids, and liquids.
- The student will demonstrate knowledge of vibrations and waves and apply this knowledge to the understanding of sound and its properties.

**Course Content:**

**Sections:**  
Introduction, Measurement, Estimating  
Motion in 1 Dimension  
Vectors and 2-Dimensional Motion  
Laws of Motion  
Work & Energy  
Momentum and Collisions  
Rotational Motion and the Law of Gravity  
Elasticity, Equilibrium, and Dynamics  
Solids and Fluids  
Thermal Physics  
Energy in Thermal Processes  
The Laws of Thermodynamics  
Oscillations, Vibrations, and Waves

**Academic Honesty Policy:** Dishonesty in taking examinations will follow the guidelines set in the “Code of Student Conduct” manual. Consequences for academic dishonesty span from a failing grade on the assignment to suspension from the university.  
**Drop Date:** Friday, 23 October is the final date to receive an automatic “W” when dropping a course or resigning from Nicholls State University.
**Testing:** All exams will be closed book and multiple choice; students are required to have a calculator. Data and constants will be provided. Students have several options for completing these exams. You must have a valid driver’s license or Colonel ID card to take the exam.

1) Take the exam on the date and time below. The location will be in Peltier Auditorium unless otherwise notified.
2) Take the exam in my office during office hours. If you choose this, you must take the exam in the two working days prior to the exam date or on the exam date. For example, if you cannot make the October 21st exam, you must take it on October 19th, 20th, or 21st. You must contact me, at least, 3 days in advance to schedule the exam.
3) Take the exam in an approved testing center (see below). If you choose this, you must take the exam in the two working days prior to the exam date or on the exam date. You must contact me, at least, 3 days in advance to schedule the exam.

### Exam Dates

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
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<tbody>
<tr>
<td>Exam #1</td>
<td>2-3pm, Friday, 4 September</td>
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<tr>
<td>Exam #2</td>
<td>2-3pm, Wednesday, 30 September</td>
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<tr>
<td>Exam #3</td>
<td>2-3pm, Wednesday, 21 October</td>
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<tr>
<td>Exam #4</td>
<td>2-3pm, Friday, 20 November</td>
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<tr>
<td>Final Exam</td>
<td>3:30-5:30, Monday, 7 December</td>
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### List of Approved Testing Centers: These testing centers are in Louisiana; most testing centers charge a fee. If you live elsewhere, please check with me as soon as possible so that we can make appropriate arrangements.

- Delgado Community College, West Bank Campus. Phone: 504-361-6408
- University of New Orleans. Phone: 504-280-8378
- LSU-Alexandria. Phone: 318-427-4492
- Northwestern State University (Natchitoches). Phone: 318-357-5246
- University of Louisiana-Lafayette. Phone: 337-482-6480
- Southeastern Louisiana University. Phone: 985-549-3897
- LSU-Shreveport. Phone: 318-798-4177

### Homework: Each chapter has a homework assignment. The homework will not be graded, but exams will be based heavily on homework questions. Solutions to the homework are on the course website.

### Participation: Students will be able to receive a total and maximum of 25 points for participation. I recommend that you follow the online lectures and, when a question arises in the workbook, you pause the video and try to answer the question. These questions, which are in the workbook, make up the online participation quizzes. The full list of quizzes is at this website:

[http://www.nicholls.edu/phsc-faculty/physics/phys101/online_participation.html](http://www.nicholls.edu/phsc-faculty/physics/phys101/online_participation.html)

The student will receive double-credit for answering questions correctly. To receive the maximum credit, the student must answer all of the questions and answer, at least, one-half of them correctly.

### Quiz Friday: Students must complete a quiz on Moodle each Friday by midnight. These quizzes will have 5-10 multiple choice questions, and each student will have only 1 attempt. The maximum credit for all of the quizzes will be 50 points; each student will receive a percentage, which they scored on the quizzes, of this maximum value.

### Grading: There are a total of 625 points. Each exam counts 100 points, and the final exam is worth 150 points (550 points). Class participation credit comprises 25 points. Online quizzes are worth 50 points. The grading scale is percentage-based with A (90-100%), B (80-89%), C (70-79%), D (60-69%), and F (0-59%) grades being assigned at the end of the semester.

For example, a student might receive these grades:

- **Hour exams:** 80, 80, 75, 60
- **Online participation:** 25
- **“Friday” quizzes:** 42
- **Final Exam:** 120

This student’s final grade would be the total of these points divided by 625, or 77.1% (C).
**Make-up Policy:** Make-ups for examinations will be determined by the instructor on a case-by-case basis. Excused absences include illness, university-sponsored activities, or other adverse situations; the student must have written documentation justifying their absence. For unexcused absences, I will deduct fifteen points from your exam grade for the first missed day and 3 points for every subsequent weekday until you contact me to arrange a make-up. For example, if you miss the exam on Tuesday and contact me on the following Monday, 24 points will be deducted from your exam grade.