

# PHYS 2010/2011 Syllabus Fall 2009

Date	Day	Grade	Lecture	Notes
SEP 01/02	T/W		L1: Introduction and Units	
SEP 02	W		Introduction and Overview	
SEP 03/04	R/F	Q1	L2: Unit Conversions	A1: Determination of Pi
<b>KINEMATICS: THE STUDY OF MOTION</b>				
SEP 08/09	T/W	Q2	L3: Speed and Velocity	A2: Terminal Velocity
SEP 09	W		Discuss L2, L3	
SEP 10/11	R/F	Q3	L4: Acceleration and 1-D Kinematics	A3: Motion, Motion
SEP 15/16	T/W	Q4	L5: 1-D Kinematics and Free Fall	A4: Free Fall
SEP 16	W	<b>Lec Quiz 1</b>	Discuss L4, L5 then <b>Lecture Quiz 1 covering L1 – L4</b>	
SEP 17/18	R/F	Q5	L6: Trigonometry and Vector Math	<i>New groups assigned</i>
SEP 22/23	T/W		Review for Test 1	
<b>SEP 23</b>	<b>W</b>	<b>Test 1 covering L1 – L5</b>		
SEP 24/25	R/F	Q6	L7: Two-Dimensional Kinematics	A5: Ghostbusters!
<b>DYNAMICS: FORCES AND ENERGY CONSIDERATIONS</b>				
SEP 29/30	T/W	Q7	L8: Forces and Newton's Three Laws	A6: You and the Force Table <b>Midterm Project Proposals Due</b>
SEP 30	W		Discuss L6, L7, and L8	
OCT 01/02	R/F	Q8	L9: Weight, Normal & Tension Forces	
OCT 06/07	T/W	Q9	L10: Friction and the Spring Force	A7: You and Your Great Ideas
OCT 07	W		Discuss L9 and L10	
OCT 08/09	R/F	Q10	L11: Uniform Circular Motion	A8: Around and Around
OCT 13/14	T/W	Q11	L12: Work, Power, Potential Energy	
OCT 14	W	<b>Lec Quiz 2</b>	Discuss L10 and L11 then <b>Lecture Quiz 2 covering L6 – L11</b>	
OCT 15/16	R/F		Review for Test 2	
OCT 19/20	M/T	<i>Fall Break – No Classes</i>		
OCT 21	W	<i>Problems Labs will NOT meet today, but the computers in WPS 211 will be available all day for review.</i>		
<b>OCT 21</b>	<b>W</b>	<b>Test 2 covering L6 – L11</b>		
OCT 22/23	R/F	Q12	L13: The Conservation of Energy	
OCT 27/28	T/W	<b>Project</b>	<b>Midterm Project Oral Presentations</b>	<i>New groups assigned next lab</i>
OCT 28	W		Discuss L12 and L13	
OCT 29/30	R/F	Q13	L14: Linear Momentum; Conservation	A9: Toys for Tots <b>Midterm Project Reports Due</b>
<b>ANGULAR KINEMATICS AND DYNAMICS</b>				
NOV 03/04	T/W	Q14	L15: Angular Variables and Kinematics	
NOV 04	W		Discuss L14, L15	
NOV 05/06	R/F	Q15	L16: Torque and Static Equilibrium	A10: You're so Amazing
NOV 10/11	T/W	Q16	L17: Newton on Angular Momentum	<b>Final Project Proposals Due</b>
NOV 11	W	<b>Lec Quiz 3</b>	Discuss L16 and L17 then <b>Lecture Quiz 3 covering L12 – L16</b>	
<b>MISCELLANEOUS SHORT TOPICS: OSCILLATIONS, FLUIDS, THERMODYNAMICS &amp; WAVES</b>				
NOV 12/13	R/F	Q17	L18: Simple Harmonic Motion and Resonance	A11: The Simple Pendulum?!
NOV 17/18	T/W		Review for Test 3	
<b>NOV 18</b>	<b>W</b>	<b>Test 3 covering L12 – L17</b>		
NOV 19/20	R/F	Q18	L19: Fluid Statics: Pressure, Buoyancy	A12: Buoyancy
NOV 24/25	T/W	Q19	L20: Fluid Dynamics: Bernoulli's Equation	<i>A special deal for Lecture Quizzes!</i>
NOV 25	W		Discuss L18, L19, and L20	
NOV 26/27	R/F	<i>Thanksgiving Break – No Classes</i>		
DEC 01/02	T/W	Q20	L21: Thermal Expansion, Ideal Gas Law	<i>Note that we will skip L22!</i>
DEC 02	W	<b>Lec Quiz 4</b>	Discuss L21 then <b>Lecture Quiz 4 covering L18 – L20</b>	
DEC 03/04	R/F	<b>Project</b>	<b>Final Project Oral Presentations</b>	<b>Final reports due next class!</b>
DEC 08/09	T/W	Q21	L23: Standing Waves and Sound Waves	A14: Waves at Rest?! ( <b>Reports due</b> )
DEC 09	W		Discuss L23; Discuss Final Exam	
<b>DEC 14</b>	<b>M</b>	<b>Final Exam covering L1 – L21 and L23 (3:30 – 5:30 PM in LRC 221)</b>		

## PHYS 2010/2011 Physics I Discussion and Problems Lab W 4:10–5:35 PM Fall 2009 LRC 221

**Lecturer:** Dr. Vic Montemayor Office: WPS 204 898-2108 [vjm@mtsu.edu](mailto:vjm@mtsu.edu) [www.mtsu.edu/~vjm](http://www.mtsu.edu/~vjm)  
Office Hours: MW 10:00–11:00 AM; TR 1:30–3:00 PM; *or by appointment*

**Required:** Text: See [www.mtsu.edu/~phys2010](http://www.mtsu.edu/~phys2010) for all lecture material. Printed copies are available at Phillips Bookstore but are not required.  
Lab Manual: *Laboratory Activities for First-Semester Physics* by V.J. Montemayor  
For Lab: You will also need a stitched graph-paper notebook (no spiral bindings!), a ruler and protractor

**Quizzes:** *A short quiz will be administered at the beginning of each Problems Lab as noted on this syllabus. The questions will be conceptual or very basic numerical multiple-choice questions (10 points max). Additionally, there will be 4 quizzes given during lecture on Wednesdays. The lecture-quiz solutions will require homework-type problem solving with reasoning and work shown (10 points max).*

**Exams:** There will be three tests administered during the semester and one comprehensive final exam. Tests will be given during the Wednesday PHYS 2010 discussion classes on the dates listed in the course syllabus. The final exam will be given at the scheduled time during finals week (shown on the syllabus).

**Activities:** You will work in groups to complete thirteen laboratory-type experiments during the Problems Laboratory meetings in AMG room 121.

**Projects:** The Midterm Project and Final Project are two group projects completed *outside of the normal lab periods*. Each project has two components: an oral presentation during the scheduled Problems Lab by the entire group, and a formal written report composed and turned in by each individual student. See the Projects navigation button on the web site Home Page for more information.

**Grading:** The final course letter grade will be based on a weighted average of all course categories using the percentages given in the table below. Letter grades will then be assigned using the following scale:

$$\begin{array}{ccccccc} A \geq 90 & 90 > B^+ \geq 87.5 & 87.5 > B \geq 80 & 80 > B^- \geq 79 & 79 > C^+ \geq 77.5 \\ 77.5 > C \geq 70 & 70 > C^- \geq 69 & 69 > D^+ \geq 67.5 & 67.5 > D \geq 60 & 60 > D^- \geq 59 & 59 > F \end{array}$$

Category	Contribution	Number Dropped
Tests (3)	30%	0
Laboratory Quizzes (21)	10%	3
Lecture Quizzes (4)	10%	0
Activities (13)	15%	1
Midterm Project	10%	0
Final Project	15%	0
Final Exam	10%	0

**Computer Access:** Copies of the Excel spreadsheets used in the Problems Labs are available in the lab room in WPS 211. The computers are generally available most of the day on Mondays and late afternoons (after 3:30 PM) on Wednesdays and Fridays.

**Important Dates:** It is the policy of the Department of Physics & Astronomy that *no drops will be approved after the deadline posted on the university website ([www.mtsu.edu/~records/scalendars.htm](http://www.mtsu.edu/~records/scalendars.htm))*. The deadline for dropping with a grade of W for this semester is **Friday, 16 October 2009**.

### **Some Important Notes:**

**Lottery Scholarship Information:** To retain Tennessee Education Lottery Scholarship eligibility, you must earn a cumulative TELS GPA of 2.75 after 24 and 48 attempted hours and a cumulative TELS GPA of 3.0 thereafter. You may qualify with a 2.75 cumulative GPA after 72 attempted hours (and subsequent semesters), if you are enrolled full-time and maintain a semester GPA of at least 3.0. A grade of C, D, F, or I in this class may negatively impact TELS eligibility. Dropping a class after 14 days may also impact eligibility; if you withdraw from this class and it results in an enrollment status of less than full time, you may lose eligibility for your lottery scholarship. Lottery recipients are eligible to receive the scholarship for a maximum of five years from the date of initial enrollment, or until a bachelor degree is earned. For additional Lottery rules, please refer to your Lottery Statement of Understanding form, review lottery requirements on the web at <http://scholarships.web.mtsu.edu/telsconteligibility.htm>, or contact the Financial Aid Office at 898-2830.

**Disabilities:** If you have a disability that may require assistance or accommodations, or if you have any questions related to any accommodation for testing, note taking, reading, etc., please speak with the instructor as soon as possible. You may also contact the Office of Disabled Student Services (898-2783) with any questions about these issues.