

# Physical Science – Physics – SCIE 3301-600 – Fall '16-'17

<b>Instructor</b>	Dr. Greg Hale 206 Life Science Building or 224 Science Hall <a href="mailto:greg@hale.uta.edu">greg@hale.uta.edu</a> <a href="https://www.uta.edu/profiles/gregory-hale">https://www.uta.edu/profiles/gregory-hale</a> phone:    day:            (817) 272-3807 (always try this number first) evening:        (817) 275-7027 (before 8 PM) fax:                        (817) 272-3511		
<b>Location</b>	Online		
<b>Important Dates</b>	8/22	Course Begins	
	12/5	Course ends	
<b>Description of Course Content</b>	This study of physical science topics includes forces and motion, the nature of science, momentum, periodic motion, waves, sound, light, electricity, current, circuits, magnetism and electromagnetism.		
<b>Course Materials</b>	Conceptual Physics, 11 <sup>th</sup> edition, Paul Hewitt		
<b>Grading Policy</b>	Mastering Physics Online Homework	30%	
	Lab Journal Entries	10%	
	Exams (3)	60%	
<b>Points and Grades</b>	A    ≥90.00%	B    ≥80.00%	C    ≥70.00%
	D    ≥60.00%		
	Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels.		
<b>Student Feedback Survey</b>	At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <a href="http://www.uta.edu/sfs">http://www.uta.edu/sfs</a> .		
<b>Student Learning Outcomes</b>	<ol style="list-style-type: none"><li>1) Students will describe the scientific method.</li><li>2) Students will distinguish between common and scientific uses of the term “theory”.</li><li>3) Students will determine the velocity and acceleration of objects.</li><li>4) Students will distinguish between average and instantaneous speeds.</li><li>5) Students will explain the vector nature of force and the concept of net force.</li><li>6) Students will apply Newton’s Laws to the motion of an object.</li><li>7) Students will calculate the momentum of an object.</li><li>8) Students will apply the concept of conservation of momentum.</li><li>9) Students will determine the work done on an object.</li><li>10) Students will explain the connection between energy and work.</li></ol>		

- 11) Students will demonstrate knowledge of the fundamental properties of waves.
- 12) Students will distinguish between longitudinal and transverse waves.
- 13) Students will distinguish between different types of wave interference.
- 14) Students will apply wave principles to the concepts of sound and music.
- 15) Students will demonstrate knowledge of resonance and natural frequency.
- 16) Students will apply wave principles to the concept of light and color.
- 17) Students will apply the concept of conservation of charge.
- 18) Students will demonstrate knowledge of electric potential.
- 19) Students will decipher electrical circuits.
- 20) Students will demonstrate knowledge of the connection between voltage, resistance and current in an electrical circuit.
- 21) Students will demonstrate knowledge of magnetism and magnetic forces.
- 22) Students will apply the concept of electromagnetism in describing electricity generation.

### **Electronic Communication**

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

### **Student Support Services**

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

### **The IDEAS Center**

(2<sup>nd</sup> Floor of Central Library) offers free tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email [IDEAS@uta.edu](mailto:IDEAS@uta.edu) or call (817) 272-6593.

### **Drop Policy**

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

## **Americans with Disabilities Act**

The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

## **Title IX**

The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or [jmhood@uta.edu](mailto:jmhood@uta.edu).*

## **Academic Integrity**

Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

## **Campus Carry**

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

## Final Review Week

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

## Course Schedule

### Unit 1

- 8/24/2016 11:59 PM MasteringPhysics Intro Homework
- 8/26/2016 11:59 PM Introductory Lab Assignment
- 8/28/2016 11:59 PM Chapter 1 Homework
- 9/1/2016 11:59 PM Chapter 2 Homework
- 9/4/2016 11:59 PM Chapter 3 Homework
- 9/7/2016 11:59 PM Chapter 4 Homework
- 9/11/2016 11:59 PM Chapter 5 Homework
- 9/14/2016 11:59 PM Chapter 6 Homework
- 9/17/2016 11:59 PM Pulley Lab Assignment
- 9/21/2016 11:59 PM Chapter 7 Homework
- 9/24/2016 Exam 1 Start the exam between noon and 9:59 pm. The exam must be completed within 120 minutes.

### Unit 2

- 9/28/2016 11:59 PM Chapter 19 Homework
- 10/2/2016 11:59 PM Chapter 20 Homework
- 10/9/2016 11:59 PM Chapter 21 Homework
- 10/16/2016 11:59 PM Chapter 26 Homework
- 10/23/2016 11:59 PM Chapter 27 Homework
- 10/26/2016 11:59 PM "Laser Beam" Lab Assignment
- 10/30/2016 11:59 PM Chapter 28 Homework
- 11/1/2016 Exam 2 Start the exam between noon and 9:59 pm. The exam must be completed within 120 minutes.

### Unit 3

- 11/6/2016 11:59 PM Chapter 22 Homework
- 11/9/2016 11:59 PM Batteries and Bulbs Lab Assignment
- 11/13/2016 11:59 PM Chapter 23 Homework
- 11/20/2016 11:59 PM Chapter 24 Homework
- 11/30/2016 11:59 PM Chapter 25 Homework
- 12/2/2016 Exam 3 Start the exam between noon and 9:59 pm. The exam must be completed within 120 minutes.

## Copyright Statement

© Copyright 2016 Gregory R. Hale as to this syllabus and all lectures. Students are prohibited from selling notes during this course to or by any person or commercial firm without the express written permission of Dr. Hale.

*As the instructor for this course, I reserve the right to adjust this syllabus and course schedule in any way that serves the educational needs of the students enrolled in this course. – Dr. Greg Hale*