

CLASS NAME--G PERIOD

2023-2024

First Quarter, 2023-2024				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8/21	8/22	8/23	8/24	8/25
<p>BIG NOTE: With the exception of the problems quoted in the Summer Session material, ALL PROBLEMS listed as homework are located on the class Website in files in the CLASS PDFs folder associated with the chapters being studied. That is, Prob 3.19 does NOT refer to a problem in the OpenStax textbook you have available as a reference. If this isn't clear, talk to me!!!</p>		<p><u>First Day of School</u> (special schedule) CLASS: 1.) shortened class: I assume you've read the things I listed in the email I sent last week-- questions? 2.) why are you taking this class; what is this class good for; why do universities like to see students take physics? 3.) do first day presentation" powerpoint</p> <p>HMWK: 1.) get ready for test on review material from summer-assignment</p>	<p>L-day 1 CLASS: 1.) none of the L-periods meet during the first 6-day rotation-- under normal circumstances, this would be your L-day meeting</p>	<p>CLASS: TEST 1 (Chapter 1-d kinematics)</p> <p>HMWK: 1.) breath deeply . . .</p>
8/28	8/29	8/30	8/31	9/1
<p>CLASS: 0.) go over test; 1.) scalars and vectors; 2.) briefly talk about graphical vector addition and subtraction; 3.) polar notation; 4.) unit vector notation; 5.) converting from one to the other 6.) Book Sections: 2.1, 2.2, 2.3</p> <p>HMWK: 1.) in the Class pdfs folder, open the Ch 3 (Vectors) folder-- in that folder you will find a file titled "Hmwk Prob--3-Series (vectors)"--open it and do Probs 3.1, 3.3, 3.13 and 3.15; 2.) download Lab--Cart Lab (L-1); OPTIONAL: 3.) if confused about graphical vector addition and subtraction, watch www.youtube.com/watch?v=rzj-dz1dODQ 4.) if confused about polar notation, watch www.youtube.com/watch?v=Ni2yg9TZtFQ 5.) if confused about unit vector notation, watch www.youtube.com/watch?v=HOqkMqi6nMQ</p>	<p>Day 4</p>	<p>CLASS: 1.) do <i>Cart Lab (L-1)</i> (acceleration of cart)--write-up due Tuesday</p> <p>HMWK: 1.) do Probs 3.23 2.) complete lab write-up if not finished in class (this will be due next Tuesday) OPTIONAL: 3.) look at the Solutions to problems 3.19 and 3.41 (you should have the skill to do 3.19-- I'm just not making you take the time to do it--these used to be assigned but to give you more time for your lab write-up I've not made it something you actually have to do)</p>	<p>CLASS: 1.) talk briefly about formalized presentation of position, velocity and acceleration vectors (covered in first few sections of Ch 4); 2.) talk about exotic math (theoretical Calculus and the chain rule); 3.) introduce 2-d projectile motion with cannon problem; 4.) mention lab cover artwork if not already done; 5.) Book Sections:4.1, 4.2 and 4.3</p> <p>HMWK: 1.) in Ch 4 (2-d Kinematics) folder, open the Series 4 hmwk file and do Probs 4.1, 4.3, 4.5, 4.7 and 4.9</p>	<p>L-day 1 CLASS: 1.) in-class <i>Quiz--Speed</i> 2.) start <i>centripetal acceleration</i> and uniform circular motion (show old school video); 3.) <i>radial</i> and <i>tangential unit vectors</i>; 4.) relative velocity and acceleration--graphical analysis; 5.) Book Sections: 4.4, 4.5 and 4.6</p> <p>HMWK: 1.) do Probs 4.11, 4.15, 4.17, 4.19, 4.21 and 4.23;</p>
9/4	9/5	9/6	9/7	9/8

LABOR DAY HOLIDAY	CLASS: 0.) collect labs; 1.) continue with topics from previous day (finish relative motion); 2.) possibly show motoGP video; 3.) talk about <i>run and shoot labs</i> --To Catch a Ball is tomorrow (have students determine velocity of ball); 3.) possibly do <i>2-d Air Table Lab</i> --determine radial and tangential acceleration of point on the curve . . . 4.) set up monkey in tree; 5.) Book Sections: 4.4, 4.5 and 4.6	CLASS: 1.) do <i>run and shoot labs</i> --To Catch a Ball; 2.) show "monkey in tree" 3.) guest speaker?	Day 4	CLASS: Test 2 (Ch's 3 and 4 -- vectors and 2-d kinematics)
	HMWK: 1.) do Probs 4.27, 4.30, 4.31 and 4.32; 2.) download LAB--To Catch a Ball Lab (L-3)	HMWK: 1.) work on pre-test; 2.) first Chipotle night		HMWK: 1.) relax
9/11	9/12	9/13	9/14	9/15
CLASS: 1.) go over test; 2.) <i>island series LAB</i> --(protractor and incline); 3.) intro to Newton; 4.) mass--gravitational and inertial; 5.) N.F.L. and N.S.L.; 6.) Book Sections: 5.1, 6.2, 5.3 and 5.4	L-day 1 CLASS: 1.) lay out N.S.L. 2.) talk about interial and non-intertial frames of reference; 4.) talk about types of forces; 5.) talk about freebody diagrams; 6.) Book Sections: 6.5, 5.6 and 5.7	CLASS: 1.) do <i>NSL (Double Atwood Machine) Lab (L-6)</i> : (due Wednesday) 2.) talk about approach	CLASS: 1.) look at elementary problem (see ppts) of three blocks on tabletop--lay out approach (if not already done); 2.) talk about quick and dirty approach if not already done; 3.) try approach on incline plane; 4.) try approach on Atwood Machine; 5.) Book Section: 6.1	Day 4
HMWK: 1.) do Probs 5.1, 5.3, 5.13, 5.20 (parts a, b and c--do by inspection)	HMWK: 1.) do Probs 5.24, 5.33 and 5.35 OPTIONAL: 2.) if you'd like to see a Newton's Second Law formally approached, look at zPoly: 8 (N.S.L.'s formal approach on elevator problem) at www.youtube.com/watch?v=rWX8poiG6D8	HMWK: 1.) write up LAB-- <i>N.S.L.(Incline) Lab (L-)</i> this lab will be due Wednesday, 9/20	HMWK: 1.) Do Probs 5.28, 5.31 and 5.37 OPTIONAL: 2.) if you'd like to see a N.S.L. problem with two accelerations, look at zPoly: 11 (N.S.L.'s problem with 2 accelerations) at www.youtube.com/watch?v=rojdx8ZukPg	
9/18	9/19	9/20	9/21	9/22
CLASS: 0.) lab due Wednesday, 9/20 1.) mention "quick and dirty" approach with both Atwood problems; 2.) do <i>climbing demo</i> ; 3.) do "pendulum inside car" problem; 3.) do friction tomorrow--end with complex problem--friction, and block on block with pulley acc up incline; (forces on complex array of masses); 6.)	CLASS: 1.) talk about all forms of friction--use Logger Pro to show using a block and Force Transd (hmkw on friction) 2.) penguin problem (review friction--how do you determine direction--block on block problem); 2.) grand finale video; 3.) QUIZ--dragging a student; 4.) MOB maneuver and centripetal forces tomorrow; 5.) Book Section: 5.8 and 6.3	L-day 1 CLASS: 00.) take ten minutes to finish lab write-up: 0.) MOB maneuver 1.) show slides of "date" sliding over seat, and talk about non-inertial frames of reference and centrifugatl forces; 2.) reiterate that centripetal forces are naturally occurring forces in a system 3.) use pendulum to test understanding of center-seeking direction (note that this is part of Prob 6.8); 4.) car over hill; 5.) car when making a turn; 6.) car around a curve; 7.) set up banked curve problem for next time; 8.) Book Section: 6.2	CLASS: 1.) for fun, superman bike rider at https://www.youtube.com/watch?v=-7WCuNSNZCU do banked curve problem; 2.) do mini <i>Friction lab</i> ; (start write-up in class, due a week from Thursday)	CLASS: 1.) do banked curve problem; 2.) do <i>Friction lab</i> ; (start write-up in class, due a week from Thursday)

HMWK: 1.) do Prob 5.39, 5.46 and 5.47	HMWK: 1.) do Probs 6.1 and 6.6; 2.) download and read Newton's Second Law--Friction lab ; OPTIONAL: 3.) this should probably be for tomorrow night--if you are still having trouble figuring out the "center seeking" centripetal direction, look at zPoly: 13 (defining axes in centripetal force problems) at www.youtube.com/watch?v=0kYTPQUwibE	HMWK: 1.) do Probs 6.9, 6.12 and 6.14; OPTIONAL: 2.) if you are still having trouble making sense of the direction of kinetic friction, look at zPoly: 12 (kinetic friction via a truck n box problem) at www.youtube.com/watch?v=AN6KwF6RxUQ	HMWK: 1.) write Prob 6.16 and 6.17	HMWK: 1.) write up Friction Lab (L-) -- this will be due a week from Friday (9/29);
9/25	9/26	9/27	9/28	9/29
Yom Kippur	Day 4	CLASS: 1.) start with airplane lab ; 2.) maybe show oddball Newton's Law video (guys in winter storm); 3.) do carnival lab with associated talk about when static frictional force not maximum; 4.) look at complex block-sliding-against-inside-inside-of-cylinder problem; 5.) look at Mr. White's flask problem; 6.) tell "car over hill" story if not already done (and if time permits)	CLASS: 1.) do pendulum problem; 2.) do turntable lab ; 3.) review;	CLASS: Test 3 (Newton's Laws)
		HMWK: 1.) you don't need to turn these in, but certainly look at them: do Probs 6.21 (this one is tricky and good review--use your head!), 6.23 and 6.42 2.) Chipotle night from 5-7 pm	HMWK: 1.) do pre-test and prepare for test on Friday	HMWK: ENJOY TRIPS WEEK
10/2	10/3	10/4	10/5	10/6
TRIPS WEEK:	TRIPS WEEK:	TRIPS WEEK:	TRIPS WEEK:	TRIPS WEEK:
10/9	10/10	10/11	10/12	10/13
FRANCIS WASS DAY	L-day 1 CLASS: 0.) go over test; 1.) island series LAB (energy) ; 2.) work by constant force; 3.) dot product ; 4.) work done by variable forces; 5.) Book Sections: 7.1,5	CLASS: 1.) note that EXTRA CREDIT will become available from Web site today and will be due Tuesday, 10/24 2.) give time to do Summary for lab; 3.) derive work/energy theorem ; 4.) work done by conservative forces , and potential energy functions ; 5.) Book Sections: 7.3, 8.1 and 8.2	CLASS: 1.) (a little time for summary), then reiterate potential energy derivation, do "Gods must be crazy," 2.) relationship between potential energy functions and their associated conservative forces; 3.) energy diagrams and equilibrium of systems; 4.) Book Section: 8.2, 8.4	Day 4
	HMWK: 1.) do Probs 7.1, 7.2, 7.5,	HMWK: 1.) do Probs 7.9, 7.14 and 7.31	HMWK: 1.) do Probs 7.32, 7.33, 7.35	
10/16	10/17	10/18	10/19	10/20

<p>CLASS: 1.) analysing models for non-isolated systems and isolated systems; 2.) derivation of modified conservation of energy thm; 3.) Book Section: 8.3</p>	<p>CLASS: 1.) do a few conservation of energy problems; 2.) show "objects tend to least energy states" demo (soap bubbles); 3.) do Conservation of Energy (Pendulum) lab (L-);</p>	<p>L-day 1 CLASS: 1.) continue doing energy-consideration problems 2.) do the on-line survey for the end-of-quarter comment at https://forms.gle/HNcSxps5qfbWaxjs6</p>	<p>CLASS: 1.) do at least three conservation of energy problems, including the problem from hell; 2.) power--AP problem; 3.) if time, show "energy oscillating between vibration and torsion" demo; 4.) Book Section: 7.4</p>	<p>PSAT TESTING (this is Day 1 of the rotation, even though the Upper School doesn't meet)</p>
<p>HMWK: 1.) do Probs 7.42, 7.43, 7.45, 7.49;</p>	<p>HMWK: 1.) complete write-up of Conservation of Energy (Pendulum) Lab (L-) if not finished in class--due Tuesday</p>	<p>HMWK: 1.) do Probs 7.47, 7.52, 8.2, 8.3, 8.5 and 8.7 2.) download LAB--Conservation of Energy (Pendulum) Lab (L-)</p>	<p>HMWK: 1.) do Probs 8.12, 8.14 and 8.18</p>	
10/23	10/24	10/25	10/26	10/27
<p>Day 4</p>	<p>L-DAY 1 CLASS: 1.) EXTRA CREDIT DUE 2.) bubbles? 3.) review</p>	<p>CLASS: TEST 4 (energy considerations)</p>	<p>end of first quarter: L-day 1 CLASS: 1.) do Island Series Lab (force to stop); 2.) talk about Newton's real approach to his second law; 3.) talk about center of mass and show how to calculate; 4.) talk about Impulse; 5.) Lecture L-1</p>	<p>FACULTY WRITING DAY (NO SCHOOL)-- (first quarter ends)</p>
<p>TONIGHT WILL BE A CHIPOTLE NIGHT FROM 5:00 TO 7:00 PM</p>	<p>HMWK: 1.) prepare for test</p>	<p>HMWK: 1.) relax</p>	<p>HMWK: 1.) download Impulse Lab (L-12a); 2.) Probs 9.1, 9.4, 9.5, 9.6 and 9.11; XtraWrk: 3.) for fun, starting at the 1:30 minute mark, watch the collision video at www.youtube.com/watch?v=W9EqU1_DXLw and momentum preamble video (don't try to internalize all of this--just enjoy the amusement) at www.youtube.com/watch?v=T9IehHxv-C8</p>	

Second Quarter, 2023-2024				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
10/30	10/31	11/1	11/2	11/3
CLASS: 1.) go over test; 2.) have students do <i>Impulse Lab (L-12a)</i> --due next Tuesday); 3.) Lecture L-2	CLASS: 1.) ask if student would prefer to be hit by big lineman moving slowly or small lineman moving fast--talk about energy versus momentum; 2.) derive <i>conservation of momentum</i> relationship; 3.) criterion for cons of energy and cons of mom; 4.) put spring loaded cart on track against other cart--is there momentum--uncork--is there momentum? 5.) throw ball in air--where is mom conserved? 6.) types of collisions; 7.) Lecture L-3	Day 4	CLASS: 1.) talk about subtleties of collisions; 2.) do "boy catches ball" problem; 3.) do rifle problem--show "Pirates" video; 4.) look at F vs t graphs; 5.) do "bullet in block" problem; 6.) do "bullet at angle" problem; 7.) Lecture L-4	CLASS: 1.) give a few hints about previous lab (energy conserved means ALL energy conserved--mechanics energy conserved means KE conserved as U won't change through a collision); 2.) take data for <i>Ballistic Pendulum lab (L-)</i> ; do informal write-up in class
HMWK: 1.) write up <i>Impulse Lab (L-12a)</i> (due next Monday); XtraWrk: 2.) look at the "two skaters" video in the Impulse and Momentum section at serc.carleton.edu/student_videos/index.html --before the video starts, determine the center of mass of the two boys, then notice where they end up by the end of the video	HMWK: 1.) do Probs 9.18, 9.19 and 9.23; OPTIONAL: 2.) if you aren't completely clear as to when you can use cons of energy and when cons of mom, look at the fairly complicated problem at <i>zPoly: 19 (cons. of mom example--cannon and spring)</i> at https://youtu.be/uKfQhCOW-Eo		HMWK: 1.) work on <i>Impulse Lab (L-14)</i> due Friday, 11/10; OPTIONAL: 2.) if you'd like to see another complicated cons. of momentum and energy problem, look at <i>zPoly: 20 (block on block w spring)</i> at https://youtu.be/_vffPexYS4I	HMWK: 1.) do Probs 9.27, 9.29 and 9.33; 2.) for fun, look at video at https://afreeparticle.com/collisioncarts.html
11/6	11/7	11/8	11/9	11/10
L-day 1 CLASS: 1.) talk about glancing blows; 2.) some mathematical nastiness when energy and momentum are conserved; 3.) say something about center of mass (more tomorrow); 4.) the ice dome, problem from hell and cannonball problem; 45.) the astronaut game if we have time . . . 6.) curved incline problem 7.) explosion problem pendulum problem; 8.) Lecture L-5	CLASS: 1.) talk about <i>center of mass problems</i> (note that the integral calculation will not happen on this test, but the technique will be needed for something you will do in the rotation section; 2.) mention "theoretical nitty gritty"; 3.) mention "center of mass" frame of reference; 4.) play face ball	CLASS: TEST 5 (momentum)	Day 4	CLASS: 0.) go over test; 1.) quickly do <i>island series LAB</i> (rotational parameters) so homework doesn't go out of synch; 2.) rotational kinematics; 3.) relationship between rotational and translational paramters (at end go out and play crack the whip); 4.) note that the homework will require some dimensional analysis and a lot of extraneous math knowledge (which I won't go over); 5.) Book Sections: 10.1, 10.2 and 10.3

<p>HMWK: 1.) do Probs 9.36, 9.37, 9.38, 9.40, 9.41 and 9.43; 2.) Chipotle night 5:00 - 7:00 pm OPTIONAL: 2.) if you'd like to see another complicated cons of momentum and energy problem, look at zPoly: 20 (block on block w spring) at https://youtu.be/_vffPexYS4I</p>	<p>HMWK: 1.) begin to prepare for test;</p>	<p>HMWK: 1.) relax</p>		<p>HMWK: 1.) do Probs 10.3, 10.5, 10.7, 10.11, 2.) look at the solutions (but do not do unless you have the time) probs 10.13, 10.17 and 10.21 (these don't need to be turned in); OPTIONAL: 2.) if you want more on the bizarre minutia you need to be aware of concerning rotational motion, look at zPoly: 22 (rotational machinations) at http://youtu.be/9ZpLQ1TWREY</p>
11/13	11/14	11/15	11/16	11/17
<p>CLASS: 1.) calculating moment of inertia of discrete mass; 2.) calculating moment of inertia of continuous distribution; 3.) end with minutia (fill in over next several periods-- velocity of wheel's point of contact; ang velocity same everywhere; can't tell difference between inst. pure rotation and rolling) 4.) Book Sections: 10.4 and 10.5</p>	<p>L-day 1 CLASS: 1.) talk about how direction of rotational vectors are defined; 2.) derive $v = R\omega$ and $a = R\alpha$. . . right at end of period, go out and play "crack the whip;" 3.) look ar "GEARS" site at https://ciechanow.ski/gears/ 4.) talk about cross products using wrench example; 5.) talk about rigid body problems and various ways to do torque calculations; 6.) Book Sections: 10.6, 10.7, 12.1 and 12.2</p>	<p>CLASS: 1.) introduced NSL problem with falling hinged beam with can attached and ball falling into it at right angle 2.) if time, finish rigid body problems (look at special chapter devoted to these problems); 3.) Book Sections: 12.1, 12.2, 10.4 and 10.5,</p>	<p>CLASS: 1.) do N.S.L. problems 5.) Book Sections: 10.6 and 10.7</p>	Day 4
<p>HMWK: 1.) do Probs 10.25, 10.29 and 10.31</p>	<p>HMWK: 1.) do Probs 10.35, 10.36, and 10.38; OPTIONAL: 2.) I'd STRONGLY SUGGEST you view at least the first two minutes of this video on rigid bodies at zPoly: 21 (rigid body beam problem) at http://youtu.be/aeXb6xLibGk</p>	<p>HMWK: 1.) do Probs 12.13, 12.18 and 12.21 (these are found in the Rigid Body chapter) OPTIONAL: 2.) if you'd like to see a more complicated rigid body problem, look at zPoly: 23 (complex rotating beam problem and NSL) at http://youtu.be/om8pQ0j8Hg0</p>	<p>HMWK: 1.) be grateful for all that you have, for presumably you will find this holiday considerably more enjoyable than will the turkey . . .</p>	
11/20	11/21	11/22	11/23	11/24
THANKSGIVING	THANKSGIVING	THANKSGIVING	THANKSGIVING	THANKSGIVING
11/27	11/28	11/29	11/30	12/1

CLASS: 1.) talk about energy considerations in rolling systems; 2.) talk about Rolling Objects lab	CLASS: 1.) do Rolling Objects lab	L-day 1 CLASS: 1.) do rolling disk demo tomorrow; 2.) talked about motion of a rolling object; discuss Rolling Objects Lab (L-) ; 3.) Introduce angular momentum; 4.) Book Sections: 10.8, 10.9 and 11.1	CLASS: 1.) showed disk and hoop down incline demo; 2.) do yoyo problem; 3.) do ball down incline problem both ways if not already done; do Atwood Machine if not already done; 4.) at end, if time permits, do moment of inertia demo (rods)	CLASS: 1.) talk about angular momentum without external forces (in an isolated system); 2.) talk about rigid body knot problem; 3.) Book Section: 11.1 and 11.3 and 11.4 4.) at end and if not already done and if time permits, do moment of inertia demo (rods)
HMWK: 1.) do Probs 10.45, 10.49, 10.51, 10.55	HMWK: 1.) begin to think about getting the materials you will need to execute the Rolling Objects Lab on next Tuesday; 2.) do prob 11.11, 11.12 (this is a cross product problem), 11.15 and 11.25; OPTIONAL: 3.) STRONGLY SUGGESTED: if you'd like to see a complicated cons. of energy problem with rotation, look at zPoly: 26 (cons of energy with rotation--complex beam problem) block on block w spring) at http://youtu.be/Qmn0tci5WC0	HMWK: 1.) work on the Rolling Objects Lab due a week from Friday;	HMWK: 1.) do prob 11.30, 11.31, 11.35 and 11.37 OPTIONAL: 2.) if you'd like to see a complicated N.S.L. problem with rotation, look at zPoly: 25 (complex NSL ball, pulley and incline plane) at http://youtu.be/UOHCICQ1B_4	HMWK: 1.) prepare for test
12/4	12/5	12/6	12/7	12/8
Day 4	CLASS: 1.) talk about pulsars; 2.) either start talking about or begin to take data for the Rolling Objects Lab (L-) --this lab will be due Friday after Block Days, 1/6 (don't put it off--it is going to take some time to do the write-up, which needs to be word-processed)	CLASS: TEST 6 (rotational motion)	L-day 1 CLASS: 1.) go over tsst 2.) talk about angular momentu	CLASS: 1.) Rolling Objects Lab due; 2.) review for Block Day test
	CLASS: 1.) perpare for test; 2.) Chipotle Night from 5:00 pm to 7:00 pm	HMWK: 1.) relax	HMWK: 1.) finish writing up Rolling Objects Lab (due Friday)	HMWK: 1.) begin to prepare for Block day test: 2.) to find College Board AP-level Free Response questions, go to https://apstudents.collegeboard.org/courses/ap-physics-c-mechanics/free-response-questions-by-year 2.) to find Multiple Choice questions, go to Mr. White's site learnapphysics.com
12/11	12/12	12/13	12/14	12/15
L-day 3 CLASS: 1.) begin to review for Block Day test 2.) for fun, look at "race of three masses on a meter stick" at https://youtu.be/9Tc8YxR_yDA	Block Day	Block Day	Block Day	Block Day

<p>HMWK: 1.) reiteration: to find College Board AP-level Free Response questions, go to https://apstudents.collegeboard.org/courses/ap-physics-c-mechanics/free-response-questions-by-year 2.) to find Multiple Choice questions, go to Mr. White's site learnapphysics.com</p>				
12/18	12/19	12/20	12/21	12/22
Winter Break	Winter Break	Winter Break	Winter Break	Winter Break
(SNOW?)	(SNOW?)	(SNOW?)	(SNOW?)	(SNOW?)
12/25	12/26	12/27	12/28	12/29
Winter Break	Winter Break	Winter Break	Winter Break	Winter Break
(SNOW?)	(SNOW?)	(SNOW?)	(SNOW?)	(SNOW?)
1/1	1/2	1/3	1/4	1/5
Winter Break	Winter Break	CLASS: 0.) say something about the big test and its grading; 1.) your next test will be a week from Friday); 2.) Newton's Law of Universal Gravitation; 3.) Measuring the Gravitational Constant; 4.) free falling acceleration and gravitational force; 5.) Book Sections: 13.1, 13.2 and 13.3	L-day 3 CLASS: 1.) graviational fields; 2.) gravitatal potential energy; 3.) total energy in an orbiting system that is circular . . . that is oval; 4.) Book Sections: 13.5 and 13.6	Day 4
(SNOW?)	(SNOW?)	HMWK: 1.) do Prob 13.3, 13.5, 13.10 and 13.12	HMWK: 1.) do Prob 13.26, 13.28, 13.31	
1/8	1/9	1/10	1/11	1/12
CLASS: 1.) energy considerations in planetary and satellite motion; 2.) AP problems;	CLASS: 1.) Hooke's Law Lab (L-); 2.) motion of an object attached to a spring; 3.) mathematical representation of simple harmonic motion; 4.) motion of an object attached to a pendulum 5.) Book Sections 15.1, 15.2	L-day 1 CLASS: 1.) finish what was wasn't presented yesterday; 2.) energy of simple harmonic oscillator; 3.) the vibratory motion demo/lab done to Disney's "It's a Small World"; 4.) Book Section 15.3 and 15.5	CLASS: 1.) finish what wasn't done yesterday; 2.) pendulum lab 3.) wave motion demos?	Second Semester Begins CLASS: 1.) TEST 8 (gravitation and vibratory motion)
HMWK: 1.) do Prob 13.34, 13.36, 13.39	HMWK: 1.) look at the solutions to, but do not do to be turned in, Probs 15.1, 15.3, 15.5, 15.9, 15.13; 2.) your time should, presumably, be used to finish off the Rotating Object's Lab that is due Tuesday	HMWK: 1.) do Prob's 15.17, 15.19, 15.22, 15.31, 15.33; 2.) Chipotle night from 5:00 pm to 7:00 pm	HMWK: 1.) prepare for test	HMWK: 1.) relax

Third Quarter, 2023-2024					
S U N	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
	1/15	1/16	1/17	1/18	1/19
	MLK Jr Holiday	second semester begins Day 4	CLASS: 1.) go over test; 2.) talk about difficulty of next semester; 3.) talk about cheating; 4.) talk about course evaluation; 5.) begin to talk about Properties of Electric Charge if time permits; 6.) talk about The Great Static Charge Scavenger Hunt lab-- you will have time on Thursday (no write-up) to present your findings); 7.) Book Sections 5.1, 5.2	CLASS: 00.) static charge hunt? 0.) continue with properties of charges--do pithball demo; 2.) talk about charging objects by contact and induction; 3.) mention Coulomb's Law and point out its use as a magnitude in problems; 4.) look at Coulomb Law problems (where is force zero between two charges); 5.) Book Sections 5.2,	L-day 1 CLASS: 1.) present the idea of the electric field; 2.) talk about minutia associated with electric fields; 3.) talk about continuous charge distribution; 4.) for homework, mention that you know how to do work calculations, and you know how to get a force from an E-field expression . . . 5.) Book Sections 5.4, 5.5, 5.6 and 5.7
			HMWK: 1.) look over Fletch's first few chapters of Vol. 2 . . .	HMWK: 1.) do Prod's 23.4, 23.10, 23.8, 23.15, 23.17 not 23.7, 23.13; 2.) don't forget about the Great Static Charge Scavenger Hunt	HMWK: 1.) do Prob's 23.24, 23.43, 23.45 and 23.47 look at solution to but do not do 23.21, 2.) EXTRA STUFF: Fletch's video zPoly: 34 (electric fields in general form) found at http://youtu.be/L_j2ya5RjmY
	1/22	1/23	1/24	1/25	1/26
T e s t W r i t e u p i n c l a s s ?	CLASS: 1.) finish up odds and ends; 2.) if time, do Electric Field Lab (do semi-informal write-up in class); 3.) for homework, talk about	L-day 3 CLASS: 1.) talk about E-field lines; 2.) intro to electric flux; 3.) explain Gauss's Law; 4.) Application of Gauss's Law to Various Charge Distributions; 5.) Book Sections 6.1, 6.2 and 6.3	Day 4	CLASS: 1.) more Gauss's Law problems	CLASS: 1.) Gauss's Law and cylindrical symmetry; 2.) Gauss's Law and infinite, flat surfaces; 3.) start electrical potentials 4.) Book Section 6.4
	HMWK: 1.) do problems 23.29, 23.35 (derive this) and 23.37, look at solution to but do not do: 23.31, 2.) look at prob's 23.40, 23.41; do not do 23.39, 23.43 ; 2.) EXTRA STUFF: Fletch's video zPoly: 34 (electric fields in general form) found at http://youtu.be/L_j2ya5RjmY	HMWK: 1.) do Prob's 23.40, 23.41, 24.1, 24.6, 24.7		HMWK: 1.) do Prob's 24.11, 24.17, 24.23, 24.27	HMWK: 1.) do prob's 24.29 and 24.33; 2.) begin pre-test;
	1/29	1/30	1/31	2/1	2/2
	L-day 1 CLASS: 1.) review	CLASS: 1.) TEST 1 (electrostatics, Coulomb's Law and E-fields)	CLASS: 0.) go over test; 1.) intro to electric potential; 2.) definition of <i>electric potential</i> ; 3.) Potential Difference; 4.) Potential Difference in a Uniform Electrical Field; 5.) Book Section 7.1, 7.2	Day 4 quest 8:30 am	CLASS: 1.) do whatever wasn't covered yesterday; 2.) if time, deriving Electric Potential and Potential Energy <i>Due to Point Charges</i> ; 2.) Book Section 7.3
	HMWK: 1.) prepare for test 2.) SUNDAY . . . 5-7 PM	HMWK: relax	1.) HMWK: 1.) do Prob's 24.35, 24.37, 24.39, 24.43, 24.44		HMWK: 1.) do Prob's 25.1, 25.3, 25.5, 25.9, not 25.8, 25.11, 25.18 and 25.22; 2.) EXTRA STUFF: Fletch's video zPoly: 35 (absolute electrical potentials in general) found at http://youtu.be/Cyplz6afxMQ

2/5	2/6	2/7	2/8	2/9
CLASS: 1.) Millikan Oildrop Lab (due Moneqy, 2/12)	CLASS: 1.) Obtaining the Value of the Electric Field from the Electric Potential; 2.) Electric Potential Due to Continuous Charge Distributions; 3.) Electric Potential Due to a Charged Conductor; 4.) Book Sections 7.4, 7.5 and 7.6	CLASS: 1.) finish whatever wasn't done yesterday; 2.) look at derivation of electric potential function for multiple layered, charged geometries (spheres and cylinders); 3.) define capacitance 4.) show cap demos (camera)	CLASS: 1.) talk about capacitors briefly (for homework)--do Mr. White's "flash on camera" demo 2.) Lab-Electric Potential (due Tuesday, 2/13); 3.) mention again capacitance--you'll need it for part of the homework	Day 4
HMWK: 1.) write up Millikan OilDrop Lab (due Monday, 2/12)	HMWK: 1.) do Prob's 25.14, 25.15, 25.20; not 25.8, 25.11, 25.18 and 25.22;	HMWK: 1.) do Prob's 25.33, 25.35 and 25.40	HMWK: 1.) finish lab if not done in class; 2.) when you are done with the lab, look at prob 26.1, 26.13, 26.16 and 26.23, but don't write them up to be turned in.	
2/12	2/13	2/14	2/15	2/16
CLASS: 1.) definition of capacitance; 2.) calculating capacitance. computer models of capacitance; 3.) Book Sections 8.1	L-day 1 CLASS: 1.) combination of capacitors (series and parallel); 2.) go through powerpoints 3.) Capacitor lab (not on Richard's calendar--hard to make sense without first having done circuits) 4.) start discussion of dielectrics; 5.) Book Section 8.3 and 8.3	CLASS: 1.) Energy Stored in a Charged Capacitor (demo); 2.) Capacitors w/ Dielectrics. Demo of Capacitor Discharge; 3.) Book Section 8.4 and 8.5	CLASS: TEST 2 (electric potentials and capacitance)	FACULTY PROFESSIONAL GROWTH DAY (no school)
HMWK: 1.) do Prob's 26.5, 26.31, 26.34, 26.11	HMWK: 1.) do Prob's 26.24, 26.37, 26.42 (if you want to give me these on the day of the test, that's OK--you might want to start on the practice test tonight if you go to Chipotle); 2.) look at 26.33 and 26.44; 3.) EXTRA STUFF: Fletch's video zPoly: 41 (dielectrics and capacitors) at http://youtu.be/BpbYtwHbwZc	HMWK: 1.) prepare for test	HMWK: 1.) relax	
2/19	2/20	2/21	2/22	2/23
PRESIDENT'S DAY (no school--again, you lucky ducks)	CLASS: 0.) go over test; 1.) whirlwind: preamble to circuits: definition of current, Ohm's Law, resistance in general (along with temperature dependence); resistance of a wire; 2.) note that this is from Book Sections 9.1, 9.2 and 9.4 3.) define electric power both provided by power supply and dissipated by resistor; 4.) point out Resistors in Series and Parallel. 5.) Book Section 9.1, 9.2, 9.4, 9.6, 10.1 and 10.2	Day 4	CLASS: 1.) use first half of period doing Circuit Lab; 2.) explain EMF using parallel combo demo;	CLASS: 1.) do several seat of pants problems; 2.) Book Section 10.3

	<p>HMWK:</p> <p>1.) do Prob's 27.7, 27.12, 27.14 and 28.5; look at but do not do 27.23;</p> <p>2.) EXTRA STUFF: Fletch's video zPoly: 39 (seat of the pants DC circuit analysis) at https://www.youtube.com/watch?v=KmlJMgsvFSI</p>		<p>HMWK:</p> <p>1.) do Prob's 27.29, 27.35, 27.39 and 28.1</p>	<p>HMWK:</p> <p>1.) do Prob's 28.6, 28.8, 28.9;</p>
2/26	2/27	2/28	2/29	3/1
<p>L-day 1</p> <p>CLASS:</p> <p>1.) senior ditch day</p>	<p>CLASS:</p> <p>1.) finish seat of pants;</p> <p>2.) talk about Kirchoff's Laws;</p> <p>3.) talk about Kirchoff's lab (don't do it, just look at circuit);</p> <p>4.) Box Circuits lab</p> <p>5.) Book Section 10.4</p>	<p>CLASS:</p> <p>1.) do RC Circuits lab (due Wednesday, 3/6)</p> <p>2.) eiterate Kirchoff's Laws (go through smiling face circuit);</p> <p>2.) talk more about RC circuits;</p> <p>3.) mention the time constant;</p> <p>4.) Book Section 10.5</p>	<p>Day 4</p>	<p>CLASS:</p> <p>1. do Capacitors lab</p>
<p>HMWK:</p> <p>1.) do Prob's 28.17, 28.21, 28.24, 28.27,</p>	<p>HMWK:</p> <p>1.) do Prob's 28.32 and 28.42;</p> <p>2.) EXTRA STUFF: Fletch's video on Kirchoff's Law at zPoly: 40 (Kirchoff's Law) www.youtube.com/watch?v=KmlJMgsvFSI</p>	<p>HMWK:</p> <p>1.) do Prob's 28.34; then, an initially uncharged cap C1 is in parallel with a second uncharged cap C2, where C2 is itself in series with an open switch S2; the cap combination is in series with a resistor R, an open switch S1 and a DC power supply V_0;</p> <p>a.) draw the circuit with the switches open. Proceeding, S1 is closed at $t = 0$. b.) Sketch the current vs time graph through R; c.) sketch C1's "charge on plates" graph as a fct of time; d.) after a long period of time, S1 is opened and S2 is closed. e.) sketch the current vs time graph for the current in the cap's parallel circuit.</p>		<p>HMWK:</p> <p>1.) write up Capcitors Lab</p>
3/4	3/5	3/6	3/7	3/8
<p>CLASS:</p> <p>1. do cap analysis-- charging and discharging characteristics;</p> <p>2.) talk about meters;</p> <p>3.) talk about electrocution and lightning</p> <p>4.) talk about meters;</p> <p>5.) take time to review and answer questions</p>	<p>L-day 1</p> <p>CLASS:</p> <p>TEST 3 (DC circuits)</p>	<p>CLASS:</p> <p>0.) begin new section;</p> <p>1.) what magnetic effect really are;</p> <p>2.) Magnetic Fields & Forces-- magnetic field lines;</p> <p>3.) Motion of a Charged Particle in a Uniform Magnetic Field ($qv \times B$).</p> <p>4.) Demo: Magnetic Force on moving charge.</p> <p>5.) book sections 11.1, 11.2 and 11.3</p>	<p>CLASS:</p> <p>1.) Applications Involving charged Particles Moving in a Magnetic Field;</p> <p>2.) Magnetic Force Acting on a Current-Carrying Conductor. Demo: Force on current-carrying wire</p> <p>3.) book sections 11.4 and 11.5</p>	<p>last day of 3rd quarter</p> <p>Day 4</p>
<p>HMWK:</p> <p>1.) prepare for test;</p> <p>2.) possibly Chipotle night from 5:00 to 7:00 pm if not done Sunday night</p>	<p>HMWK:</p> <p>1.) relax</p>	<p>HMWK:</p> <p>1.) do Prob's 29.2, 29.6, 29.8, 29.9,</p>	<p>HMWK:</p> <p>1.) do Prob's 29.13, 29.15, 29.19</p>	
Fourth Quarter, 2023-2024				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3/11	3/12	3/13	3/14	3/15

CLASS: 1.) Applications Involving charged Particles Moving in a Magnetic Field; 2.) Magnetic Force Acting on a Current-Carrying Conductor. Demo: Force on current-carrying wire 3.) book sections 11.4 and	CLASS: 1.) lab: do drawing Magnetic Field lines or e/m lab (helmholtz coil) (if the latter, do "back of the envelope" write-up due after holiday); 2.) talk about the direction of B generated by a current-carrying wire 3.) book section 11.5;	L-day 3 CLASS: 1.) galvanometers; 2.) rod down incline prob; 3.) devices based on B-flds; 4.) talk about Biot Savart 5.) book sections 11.6 and 11.7	CLASS: 1.) Hall Effect; 2.) reiterate law of Biot-Savart; 3.) The Magnetic Force Between Two Parallel Conductors; 4.) book sections 12.1, 12.2, 12.3 and 12.4	CLASS: 1.) we'll see
HMWK: 1.) do Prob's 29.24, 29.29, 29.35, 29.37; 2.) EXTRA STUFF: Fletch's video zPoly: 43 (B-fields and current-carrying wires) at https://www.youtube.com/watch?v=0Z2ku_T0GE	HMWK: 1.) do Prob's 29.44, 29.47, 29.51, 30.2 2.) EXTRA STUFF: Fletch's video zPoly: 50 (mass spectrometer) at https://youtu.be/mnhh0uRvQ2o	HMWK: 1.) do Prob's 30.3, 30.13, 30.4,	HMWK: 1.) do Prob's 30.5, 30.23, 30.32 and 30.4 (the hard way)	HAVE A GREAT SPRING BREAK
3/18	3/19	3/20	3/21	3/22
Spring Break	Spring Break	Spring Break	Spring Break	Spring Break
3/25	3/26	3/27	3/28	3/29
Spring Break	Spring Break	Spring Break	Spring Break	Spring Break
4/1	4/2	4/3	4/4	4/5
Day 4	CLASS: 1.) ask about MM attendance; 2.) combining B-flds; 3.) trick for determine attraction/repulsion between B-fld producing entities; 4.) magnetic field of coil; 5.) Ampere's Law (do solenoid and toroid as examples); 6.) Gauss's Law in Magnetism; 7.) book sections 12.5, 12.6 and 12.7;	CLASS: 1.) finish up (talk about displacement current); 2.) revisit velocity trap in all its iterations; 3.) review questions?	L-day 1 CLASS: 1.) intro to Faraday's Law	CLASS: 1.) candidate
	HMWK: 1.) do Prob's 30.29, 30.34 and 30.45 2.) Chipotle night from 5:00 pm to 7:00 pm	HMWK: 1.) prepare for test	HMWK: 1.) write up the "charge on electron" lab (the Helmholtz coil lab). This will be due next Monday.	HMWK: 1.) do Prob's 31.6, 31.9, 31.14; 2.) EXTRA STUFF: Fletch's video zPoly: 45 (motional EMS's) at https://youtu.be/SK2CraiWk0U
4/8	4/9	4/10	4/11	4/12
CLASS: 1.) motional EMF's; 2.) induced electric fields; 3.) book section 13.3 and 13.4	Day 4	CLASS: TEST 4 (magnetic fields) 1.) do Faraday's Law lab	CLASS: 1.) preliminary intro to induction and Faraday's Law; 2.) Hoover dam story; 3.) d; 4.) 5.) book section 13.5 and 13.6	L-day 1 CLASS: 1.) prepare for Magic Mountain
HMWK: 1.) prepare for test 2.) Chipotle night from 5 to 7 pm		HMWK: 1.) write up Faraday's Law Lab (due Tuesday, 4/19)	HMWK: 1.) do Prob's 31.20, 31.23	HMWK: 1.) do Prob's 31.25, 31.30
4/15	4/16	4/17	4/18	4/19

CLASS: 1.) Magic Mountain	L-day 3 CLASS: 1.) motional EMFs; 2.) book section 14.1 and 14.2	Day 4	CLASS: 1.) I'm way behind: review motional EMFs; 2.) talked about eddy currents (that was last night's homework); 3.) book section 14.1 and 14.2	CLASS: 0.) do AP days survey; 2.) talk finish off transformers; 2.) talk about energy in a magnetic field 3. mutual inductance; 4.) self inductance; 5.) inductors and RL circuits; 6.) do rod down incline with its backstory if time;
HMWK: 1.) write up Magic Mountain report	HMWK: 1.) do Prob 31.44		HMWK: 1.) do Prob's 32.3, 32.7, 32.10, 32.14	HMWK: 1.) do Prob's 32.16, 32.17, 32.21
4/22	4/23	4/24	4/25	4/26
L-day 1 CLASS: 1.) demos 2.) review for test	CLASS: TEST 5 (Faraday's Law)	L-day 3 CLASS: 1.) begin reviewing for AP test- -Mechanics Multiple Choice	Day 4	CLASS: 1.) Mechanics Multiple Choice
HMWK: 1.) prepare for test	HMWK: 1.) look at the video on vector fields st https://www.youtube.com/watch?v=rB83DpBJQsE	HMWK: 1.) --		HMWK: 1.) --
4/29	4/30	5/1	5/2	5/3
CLASS: 1.) Mechanics Free Response	L-day 1 CLASS: 1.) Mechanics Free Response	CLASS: 1.) E&M multiple choice	CLASS: 1.) E&M Free Response	Day 4
HMWK: 1.)	HMWK: 1.)	HMWK: 1.)	HMWK: 1.)	
5/6	5/7	5/8	5/9	5/10
U.S. Govt AP; Art History CLASS: 1.)	MicroEcon AP; Statistics CLASS: 1.)	L-day 1 English Lit; Comp Sci CLASS: 1.) don't meet (14)	Chinese Lang; Psych CLASS: 1.)	U.S. History; Spanish Lit CLASS: 1.)
HMWK: 1.)	HMWK: 1.)	HMWK: 1.)	HMWK: 1.)	HMWK: 1.)
5/13	5/14	5/15	5/16	5/17
Day 4 Calculus AP	English Lang; Physics C CLASS: 1.) don't meet	French Lang; Comp Sci Prin Music Theory CLASS: 1.) (2)	L-day 1 Spanish Lang; Biology CLASS: 1.) (3)	Latin CLASS: 1.) Parting Shot
	HMWK: 1.)	HMWK: 1.)	HMWK: 1.)	HMWK: 1.)
5/20	5/21	5/22	5/23	5/24
CLASS: 1.) senior last day--demos	Day 4	CLASS: 1.) senior week	CLASS: 1.) senior week	L-day 1 CLASS: 1.) senior week
5/27	5/28	5/29	5/30	5/31
Memorial Day Holiday SENIOR TRIP	BLOCK DAY/SENIOR TRIP	BLOCK DAY/SENIOR TRIP	BLOCK DAY/SENIOR TRIP	BLOCK DAY/SENIOR TRIP