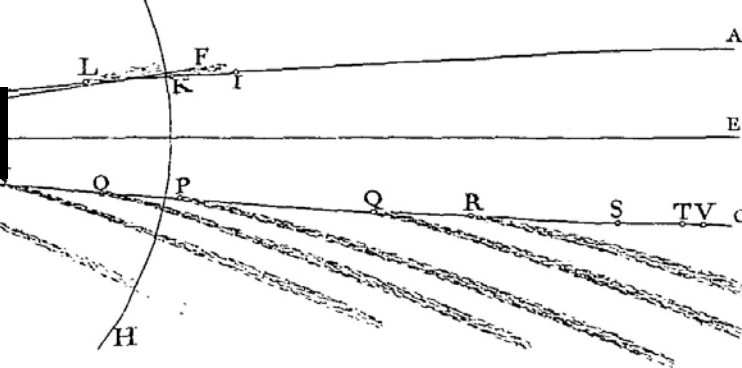


Daniel W. Koon • St. Lawrence University



Course Objective

Physics 103 is the first half of a two-semester course that provides an introduction to the principles of physics using algebra and trigonometry. Topics covered in the Fall semester include mechanics, wave phenomena, and fluids. The Spring semester will be devoted to topics in electricity and magnetism, optics, and modern physics.

The requirements for this course will include weekly homework assignments, in-class exercises, quizzes, three in-class exams, a final exam, and laboratory work.

Contact Information:

214 Bewkes Hall
Office Phone: x5494
Email: dkoon@stlawu.edu

Office Hours:

T&Th. 9:00-11:30, 1:30-4:30

Each class:

The lecture sections meets

- (a) MWF from 8:10 to 9:10am (Section A), and
- (b) MWF from 10:30 to 11:30 (Section B), both in Valentine 204.

Topics covered each week are listed in the Course Schedule. Our text is *Physics 2nd Ed.* by Giambattista, Richardson, and Richardson. Please register for this class on SAKAI, which will be used for announcements and course material distribution. <https://sakai.stlawu.edu/>.

Clickers: We will be using the iClicker system during the lectures for evaluation and polling, and it will count as part of your course grade. The iClickers can be purchased at the College Bookstore. Using another student's iClicker in class to answer questions is considered cheating. Please don't even think about it. Further instructions on registering your clickers will be provided during class.

Reading Assignments: Students are expected to have read the relevant textbook section listed in the Course Schedule *prior* to coming to class. A clicker question about the day's reading may be asked during class.

Each week:

Laboratory: The laboratory is required, and scheduling conflicts should be discussed with one of the instructors before lab meets. Your lab grade is averaged with your class grade as described below. **Failure to pass the lab will result in failure in the course.** Please read the lab handouts prior to lab, which can be found here: http://myslu.stlawu.edu/~jml/physics/labs/103_lab/103lab.shtml.

Material discussed in lab will be covered on exams and quizzes.

Quizzes: Friday quizzes will be on material covered in the previous week in lecture and lab. The lowest quiz grade will be dropped.

Homework: Problem sets are assigned weekly on Monday and cover that week's topics. Homework is divided into two steps.

Step 1: For the first step, you should try to solve every single problem *leaving room for corrections!* You may work in groups, but you should attempt to solve the problems on your own before you seek help. The homework is due at the beginning of class. Up to 4 points are awarded for your attempt to solve each problem. The problem sets are returned in a folder outside my office by the end of the day on Monday. Again *leave room for corrections!*

Stage 2: The solutions to the homework will be posted on the Sakai website after class on Monday. Using these solutions and another color writing utensil, you should make your corrections to your first attempt with the help of the solution set. Don't just copy, as you won't receive credit for copying. Your goal is to find your mistake and correct it. Indicate what you did wrong. If you did the problem correctly, you should indicate that by writing *Correct* on the problem. The corrected homework is usually due at the beginning of class, **in class**, on Wednesday.

Late homework: For step 1, 10 points will be deducted from the homework grade if it is not turned in on time. If the first step is not turned in by Monday at the end of the day, we won't have time to check it off, and you will lose all credit for step 1. For step 2, 10 points will be deducted from the homework grade for each day it is late. Late homework will not be accepted after Friday. In the case of a known absence, homework can be turned in by another student or to the instructor before class. Please talk to the instructor if you know you will be missing class.

Dropping lowest grade: The lowest homework assignment grade will be dropped.

The semester:

Exams: There will be three in-class exams covering the material completed before each exam in lecture, homework and lab. Half of the lowest exam grade will be dropped. The final exam will be cumulative but will concentrate more heavily on the chapters that have not yet been tested.

Grading: Homework, 10%, Clickers, 5%, Quizzes, 15%, Laboratory, 15%, In class exams, 30%, Final exam, 25% The final grade will be determined by the following scale:

4.0	3.75	3.5	3.25	3.0	2.75	2.5	2.25	2.0	1.75	1.5	1.25	1.0	0.0
94 – 100%	91- 93.99%	88– 90.99%	85- 87.99%	82– 84.99%	79– 81.99%	76– 78.99%	73- 75.99%	70– 72.99%	67- 69.99%	64– 66.99%	61- 63.99%	60– 61.99%	below 60 %

The following Excel code will calculate your “y” = 0–4.0 grade from your “x” = 0-100% grade:

$$y=IF(x<60,0,MIN(4,INT((x-46)/3)/4))$$

Additional resources:

Quantitative Resource Center: <http://www.stlawu.edu/qrc/>.

Disability and Accessibility: If you have a disability and need accommodations, please be sure to contact the Disability and Accessibility Services Office (x5537) right away so they can help you get the accommodations you require. If you will need to use any accommodations in this class, please talk with me early so you can have the best possible experience this semester. Although not required, I would like to know of any accommodations that are needed at least 10 days before a quiz or test, so please see me soon. For more specific information visit the DASO website <http://www.stlawu.edu/Facdisability-and-accessibility-services>

Academic Support: Another useful office for all students is the [Academic Support Office](#), which can set you up with tutoring for this and other courses.

From the Handbook’s [Academic Honor Policy](#):

All St. Lawrence students are bound by honor to maintain the highest level of academic integrity. By virtue of membership in the St. Lawrence community, every student accepts the responsibility to know the rules of academic honesty, to abide by them at all times, and to encourage all others to do the same.

Academic Honesty

A major commitment of the University is “to the intellectual development of the student” (St. Lawrence University Aims and Objectives) which can be achieved only by strict adherence to standards of honesty. At St. Lawrence, all members of the community have a responsibility to see that these standards are maintained. Consequently, St. Lawrence University students will not engage in acts of academic dishonesty as described below.

Academic Dishonesty

1. It is assumed that all work is done by the student unless the instructor/mentor/employer gives specific permission for collaboration.
2. Cheating on examinations and tests consists of knowingly giving or using or attempting to use unauthorized assistance during examinations or tests.
3. Dishonesty in work outside of examinations and tests consists of handing in or presenting as original work which is not original, where originality is required. The following constitute examples of academic dishonesty:
 - a) *Plagiarism:* Presenting as one’s own work the work of another person—words, ideas, data, evidence, thoughts, information, organizing principles, or style of presentation—without proper attribution. Plagiarism includes paraphrasing or summarizing without acknowledgment by quotation marks, footnotes, endnotes, or other indices of reference (cf. Joseph F. Trimmer, [A Guide to MLA Documentation](#)).
 - b) Handing in or presenting false reports on any experiment.
 - c) Handing in or presenting a book report on a book one has not read.
 - d) Falsification of records.
 - e) Supplying information to another student knowing that such information will be used in a dishonest way.
 - f) Submission of or presentation of work (papers, journal abstracts, oral presentations, etc.) which has received credit in a previous course to satisfy the requirement(s) of a second course without the knowledge and permission of the instructor/supervisor/mentor of the second course.
 - g) Knowingly making false statements in support of requests for special consideration or special timing in the fulfillment of course requirements.

Claims of ignorance and academic or personal pressure are unacceptable as excuses for academic dishonesty. Students must learn what constitutes one’s own work and how the work of others must be acknowledged. Any student found guilty of academic dishonesty by the Academic Honor Council may have a letter placed in his or her permanent file.

ST. LAWRENCE UNIVERSITY

Physics 103 A & B - College Physics
 Dr. Daniel W. Koon • Fall 2017 Course Schedule, last revision 8/24/17.

Date	Topic	Chapter	Assignments	Laboratory
8-30 W	Lecture 1: Introduction, Scientific notation, Units	1	#0 A	None
9-1 F	2: Motion: Position, Displacement, Velocity	2.1-2.2		
9-4 M	3: Acceleration, Motion Along a Line with Constant Acceleration	2.3-2.4	#0① #1 A	Position v. Time
9-6 W	4: Visualizing Motion Along a Line, Free Fall	2.5-2.6	#0②	
9-8 F	5: Vector Addition, Graphical and Mathematical	3.1-3.2		
9-11 M	6: Velocity and Acceleration in a Plane	3.3-3.4	#1①, #2 A	Free Fall
9-13 W	7: Motion in a Plane w/ Constant Acceleration	3.5	#1②	
9-15 F	8: Projectile Motion Practice			
9-18 M	9: Force & Newton's 1st Law	4.1-4.2	#2①, #3 A	Uniformly Accelerated Motion
9-20 W	10: Contact Forces & Tension	4.6-4.7	#2②	
9-22 F	11: Newton's 2nd and 3rd Laws	4.3-4.4		
9-25 M	Exam 1 review			Vector Addition
9-27 W	Exam 1	Ch 1-3		
9-29 F	12: Applying Newton's 2nd Law	4.8		
10-2 M	13: Gravitational Forces, Apparent Weight	4.5 & 4.10	#3①, #4 A	Projectile Motion
10-4 W	14: Uniform Circular Motion, Radial Acceleration	5.1-5.2	#3②	
10-6 F	15: Circular Orbits, Non-uniform Circular Motion	5.4-5.5		
10-9 M	16: Tangential and Angular Acceleration, Artificial Gravity	5.6-5.7	#4①, #5 A	None
10-11 W	17: Conservation of Energy, Work by a Constant Force	6.1-6.2	#4②	
10-13 F	Mid Semester Break – No classes			
10-16 M	18: Kinetic Energy and Gravitational Potential Energy	6.3-6.5	#5①	Centripetal Motion
10-18 W	Exam 2 Review	Ch 4-6	#5②	
10-20 F	Exam 2	Ch 4-6		

10-23 M	19: Work by Variable Forces, Elastic Potential Energy, Power.	6.6-6.8	#6A	Conservation of Mechanical Energy
10-25 W	20: Momentum: Vector conservation law	7.1-7.2		
10-27 F	21: Impulse-Momentum Theorem, Conservation of Momentum	7.3-7.4		
10-30 M	22: Center of Mass and Momentum practice	7.5	#6①, #7A	1D Collisions
11-1 W	23: Collisions in 1- and 2-D	7.7-7.8	#6②	
11-3 F	24: Rotational Kinetic Energy, Inertia and Torque	8.1-8.2		
11-6 M	25: Work Done by Torque, Rotational Equilibrium	8.3-8.4	#7①, #8A	Newton III: Momentum Conservation
11-8 W	26: Equilibrium in the Human Body, Rotational Form of Newton's 2nd	8.5-8.6	#7②	
11-10 F	27: Motion of rolling objects, Angular momentum	8.7-8.9		
11-13 M	28: Chapter 8 practice	8.1-8.9	#8①	Torque & Equilibrium
11-15 W	Exam 3 Review	Ch. 6-8	#8②	
11-17 F	Exam 3	Ch. 6-8		
11-20 to 24	Thanksgiving Break – no classes		<i>None</i>	<i>None</i>
11-27 M	29: States of matter, Pressure, Pascal's principle	9.1-9.3	#9A	Pressure, Buoyancy
11-29 W	30: Measuring pressure, Archimedes' principle	9.4-9.6		
12-1 F	31: Fluid Flow and the Bernoulli equation	9.7-9.8		
12-4 M	32: Simple Harmonic Motion	10.5-10.6	#9①, #10A	Waves on a String
12-6 W	33: Pendulum and graphical analysis of SHM	10.7-10.8	#9②	
12-8 F	34: Physical description of a wave	11.2-11.4, 11-7, 1.10		
12-11 M	35: Sound waves & The Ear	12.1-12.4, 12.6	#10①	TBA
12-13 W	Final Exam Review (whole semester, esp. Ch. 9-12)	Ch 1 - 12	#10②	
FINAL EXAMS	Sec. A: Fri., Dec. 22, 8:30	Sec. B: Mon., Dec. 18, 8:30	Ch 1 - 12	

Course schedule is tentative; changes will be announced in class.

Key for assignments:

#4①, #5A	<i>means:</i> "Problem Set #4 Step 1 due; Problem Set #5 assigned."
#4②	<i>means:</i> "Problem Set #4 Step 2 due."

St. Lawrence University - Department of Physics
<http://www.stlawu.edu/academics/programs/physics>