UConn Course Syllabus

UConn General Physics (PHYS 1201Q-811L)
UConn General Physics (PHYS 1202Q-810L)
Sample Syllabus

UConn Course Description
(General Physics 1201Q-1202Q) Basic facts and principles of physics. The laboratory offers fundamental training in precise measurements.

About these courses:
(Lecture/Discussion: M, T, Th, F; 40 minutes each; Labs: Thursday, 67 minutes)
This is an introductory, algebra-based, university level physics course. This course will be covered in two semesters. The emphasis in the course is on understanding of the concepts, and on using the concepts and formulas to solve problems. Laboratory work will be an integral part of this course.

These courses are offered through the University of Connecticut Early College Experience Program. It mirrors Physics 1201 & 1202 taught at the University of Connecticut as first year physics. It is taught at a college level and therefore requires effort and preparation consistent with college level work. It may be necessary for the student to spend 8-10 hours per week (or more) in completing assignments and studying for exams. As such, it offers the student an excellent opportunity to prepare for college level science and technology courses. Students receiving a "C (73)" or higher during each semester may obtain a transcript from the University of Connecticut with 4 credits for each semester.

Required Text: *Physics,* Douglas Giancoli, Prentice Hall, 7th edition

Learning Objectives—Upon completion of this course, the student will have:

- Learned the key facts, formulas and underlying principles of physics.
- Developed lab and lab writing skills.
- Increased their preparedness for college level work.
- Developed logical thinking, reasoning, and problem solving skills for use in physics, and by extension, for use in everyday life.

Grading*
You may notice that your high school grade and UConn grade differ. It is possible that two different grades can be awarded for the same course. Your high school grade will weight finals as 20%. Your UConn course grade will weight the final 25% in accordance with the policy of the UConn Physics Department.

Quarterly Grading:

- Tests, Quizzes and Special Projects: 60%
  - If you are in class the day preceding a test, and you are absent for the single day of a test or quiz, you must make up the test on the day you return to school.
- Lab Reports: 20%
  - Lab reports must be typed.
- Homework/Participation 20%
  - Homework assignments will be written on the white board/posted on Renweb.

- Student must keep a neatly organized homework binder for periodic review by teacher
  - Each problem must include: sketch if appropriate, known values, unknown values, equations, and solution
- Points will be deducted for improper use of iPad
  - iPads are to be off and flat on the desk until instructor allows use

*Note: Science Fair will count for 20% of grade in second quarter (taken from tests/quizzes and labs)

Other Course Information:

- **Extra Help:** Rm. 123, after school until 3:20pm, on Monday, Tuesday, Wednesday or Friday—please let me know that you will be coming in case of a conflict.
- **Lab Make-up** is on Thursday—Make-up labs must be completed on either of the two Thursdays following the missed lab. It will be graded as zero after that.
- **email:** dcote@kingsmen.org
- **Required Materials (bring to class each day):**
- scientific calculator, pens/pencils
- Binder (4 divisions: notes, homework, handouts, returned papers)
- Textbook: *Physics*, Giancoli, ebook .

Policy for Absences:

- See Classroom Contract

Important Information

Other Student Expectations:

- See Classroom Contract

Course Outline

- See following page

Disclaimer: I reserve the right to change this syllabus at any time.

Course Outline: UCONN ECE Physics 1201 & 1202—2014-2015

Topic	Text Chapter
First Semester— 4 Credits	
1. Introduction, Measurement, Estimating	1
2. Motion in One Dimension	2
3. Vectors and Two-Dimensional Motion	3
4. Newton's Laws of Motion and Forces	4
5. Circular Motion and Gravitation	5
6. Work and Energy	6
7. Momentum and Collisions	7
8. Rotational Motion	8
9. Fluids	10
10. Vibrations and Waves	11
11. Sound	12 (selected topics)
12. Temperature and Kinetic Theory	13 (selected topics)
13. Heat	14
14. Thermodynamics	15
Second Semester— 4 Credits	
15. Electric Fields and Charges	16
16. Electric Potential	17
17. Electric Currents	18
18. Direct Current and Circuits	19
19. Magnetism	20
20. Electromagnetic Induction	21
21. Electromagnetic Waves	22
22. Light: Geometric Optics	23
23. The Wave Nature of Light	24
24. Early Quantum Theory	27 (selected topics)
25. Quantum Mechanics of the Atom	28
26. Nuclear Physics and Radioactivity	30 (selected topics)
27. The Special Theory of Relativity	26 (selected topics)