PHYSICS 216
COURSE INFORMATION

PHYSICS 210, 216, 221, 230

Dr. Pitucco

This physics sequence of courses is designed for those students majoring in physics, mathematics, engineering, and other related areas. Students should check with their major advisor to ensure that they are enrolled in the proper course.

THIS INFORMATION AND SYLLABUS IS TENTATIVE AND CHANGES MAY BE MADE THROUGHOUT THE SEMESTER. ANY CHANGES MADE WILL BE ANNOUNCED DURING THE REGULAR CLASS PERIOD.

INSTRUCTOR: Dr. Pitucco: West Campus Tortolita E-230
Email: apitucco@pima.edu
Website: wc.pima.edu/~apitucco

COURSE PREREQUISITES:
Physics 210 – Math: Calculus I or equivalent.
Physics 221 – Math: Calculus I or equivalent and Physics 210
Physics 216 – Math: Calculus II or equivalent and Physics 210.
Physics 230 – Math: Calculus III or equivalent and Physics 216.

COURSE DESCRIPTIONS:
Physics 210 – Introduction to Classical Mechanics: includes kinematics, dynamics, energy, linear momentum, rotational kinematics and dynamics (4 units). All students must enroll separately into a 1 unit Physics 210lb Laboratory Section. (See this semester’s Schedule of Hours)

Physics 216 – Introduction to Classical Electricity and Magnetism: includes electric and magnetic field theory, Gauss's Law, potential theory, capacitance, circuit theory, Ampere's Law, Faraday's Law, and Maxwell’s Equations. (4 units). All students must enroll separately into a 1 unit Physics 216lb Laboratory Section. (See this semester’s Schedule of Hours)

Physics 221 – Introduction to fluid statics and dynamics, heat and thermodynamics, wave motion, physical and geometrical optics. (3 units).
The Laboratory is not required in all majors. Please check your major requirements. Those students requiring a laboratory must enroll separately into a 1 unit Physics 221B class. (See this semester’s Schedule of Hours)

Physics 230 – Introduction to Modern Physics: includes The Special Theory of Relativity (SR), probability, statistics, and distribution theory, energy quantization and quantum mechanics, the Schrödinger Wave Equation in 1-dimension, the hydrogen atom, The General Theory of Relativity (GR). (3 units). There is no laboratory requirement for this course.

LABORATORY REQUIREMENT
1. The laboratory component of Physics 210, 216, and 221 is a required and a separate course generally taken while concurrently enrolled in one of these courses.

2. A separate registration is required – See your semester schedule of hours.

3. Your lab grade is given by your individual laboratory teacher and is not part of this lecture portion of the class.

4. The laboratory requirements will be discussed in your individual laboratory Recitation Section.

REQUIRED TEXTS:


Physics 221–Physics, Volumes 1 and 2 by Resnick, Halliday, and Krane

Physics 230 – TBA

Calculators are not required and are unnecessary for these courses, however, they are allowed in all sections of the 200 level physics sequence.

ATTENDANCE POLICY:
Attendance is expected of all students enrolled in this course. Every effort will be made to adhere to the current syllabus and information sheet, however, this is a tentative syllabus and as such changes may be made throughout the semester. Changes in the course content and/or syllabus schedule will be announced during the regular lecture period.

Coursework materials such as homework, quizzes, etc. may be collected at any time during the regularly scheduled class period. Materials collected will neither be accepted late, for those students who leave class early, nor will there be any make-up material allowed. It is strongly advised that students do not leave any class period early.
COURSE REQUIREMENTS:

EXAMS: There will be 3 in class one-hour exams plus a required comprehensive final examination. No early, late, or make-up exams are given.

- HOUR EXAMS: Each one-hour exam is worth 100 points. Unless otherwise stated during the regular class period, the one-hour exams are given the first hour of class.

- Lecture will follow as usual after each exam.

FINAL EXAM: In each course the final exam is a required comprehensive two-hour exam and is worth 200 points. It is a scheduled exam and will be given on the indicated date and time on the syllabus.

- All exams are closed book.

- Calculators are not necessary but are allowed.

- You may bring a 3" x 5" index card for equations, etc. to each one-hour exam and a 5" x 8" index card to the Final Exam.

- One (1) lowest exam score, with the exception of the final exam, may be dropped.

HOMEWORK: Each course in the physics 200 sequence is a non-numerical problem-solving course, which emphasizes critical analysis. All problems should be done algebraically first then followed by numerical substitution, if necessary. This type of analysis requires a great deal of practice and patience. To this end, a large number of problems are assigned. Although you are not expected to complete them all, it is expected that you at least attempt them all. Homework is not generally collected; however:

- Homework is assigned according to the attached syllabus and selected Problems, indicated by asterisks, may be collected at announced time throughout the semester.

- The beginning of each class is devoted to covering problems and material from the previous lecture so it is in your best interest to attempt each problem assigned before the next lecture.

- Any homework collected will count as extra credit only.

- Homework may be collected at any time during the class period.

- There are no make-up homework sets allowed.
**QUIZZES:** Quizzes may be given throughout the semester. These are usually unannounced and are based on material from previous lectures

- Scores on all quizzes count as extra credit only.
- **Quizzes may be given at any time during the class period.**
- There are no make-up quizzes given.

**COURSE GRADE DETERMINATION:** Your Final Grade Is Determined On Total Accumulated Points

Grading Computation:

**Physics 210, 216, and 221:**

| 3 One-Hour Exams (drop 1) @100pts each | = 200 points |
| 1 Comprehensive Final Exam @ 200pts  | = 200 points  |
| **TOTAL**                             | **= 400 POINTS** |

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<th>Grade</th>
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<td>A</td>
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<td>320 - 359</td>
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**Physics 230:** Grading computation is discussed in class.

**WITHDRAWALS:** It is a school policy that you may withdraw from any class only during the first two-thirds of any semester, after which, withdrawals are not allowed. **See the current semester schedule of hours for the date of withdrawal deadline**

- Administrative Withdrawals (Y GRADES) will not be given.
- Incomplete Grades (I GRADES) may be given under special circumstances but are not generally given.
- If it is in your best interest to withdraw from any class it is the student’s responsibility to do so. Do not assume that you will be administratively dropped due to lack of attendance. Students who cease to attend class will be given a grade based upon their total points up to that time according to the point grade scale above.

**REGISTRATION:**

- It is a school policy that all students must be registered to attend this class.
- Grades will not be recorded for students not registered.
ADDITIONAL INFORMATION:

- Students are expected to fully comply with and are subject to the conditions specified in the Pima Community College Scholastic Code and the Student Code of Conduct Book available in Student Services.

- **ADA Compliance Statement**
  Pima Community College in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act offers reasonable accommodations, including material in alternative formats, to qualified students with appropriate disability documentation. To obtain a reasonable accommodation, students must be registered with a campus Disabled Student Resource Office (DSR) who will verify, identify, and authorize implementation. Accommodations cannot be made without verification of the need. Students are responsible for making all accommodation requests in a timely manner.

**ENTER PROBLEM SETS**