

- Instructors:** Dr. Steve Peterson (Coord) / RW James 514 / 650.2377 / steve.peterson@uct.ac.za
Dr. Andrew Hamilton / RW James 305 / 650.3362 / andrew.hamilton@uct.ac.za
- Class:** 2nd Period (9:00 – 9:50) / Monday – Thursday / New Learning Centre Lecture Theatre
Please bring a calculator and writing material as problems are often solved during lectures.
- Textbook:** Physics: Principles with Applications by Giancoli (Prentice Hall, 6th Edition)
- Web Page:** The course page will be on Vula. You will find course information, lecture notes, tutorials, previous tests and exams, and additional problem sets here.
- Course Outline:** Mechanics: Chapters 1-9 (16 lectures)
Kinematics, vectors, 2D motion, Newton's laws, work and energy, momentum, conservation of energy and momentum, center of mass, torque, static equilibrium
Vibrations & Waves: Chapters 11-12 (8 lectures)
Principle of superposition, simple harmonic motion, sound waves, Decibels, Doppler effect
Heat & Properties of Matter: Chapters 10, 13-15 (12 lectures)
Density, pressure, equation of continuity, viscosity, specific heat, calorimetry, heat transfer, ideal gas law, thermodynamics, metabolism
Optics: Chapters 23, 25 (7 lectures)
Reflection, refraction, Snell's law, thin lenses, combinations of lenses
Electricity: Chapters 16-19 (6 lectures)
Electric charge, Coulomb's law, electric field, electric potential, Ohm's law, circuits
- Course Tutor:** The course tutor is Anthea Field. She will be available 13:00 – 14:00 on Mondays and Fridays in RW James 330 if you wish to discuss difficulties with the additional problems and any other matters concerning the course work.
- Pracs & Tuts:** Physics practicals and tutorials will be held from 14:00 – 17:00 on Monday and Friday in the RW James building (on University Avenue, Upper Campus). Lists indicating on which afternoon students have been assigned for Physics practicals will be displayed on the notice-board in the foyer on the Learning Centre. Students must ensure that they are not late. Students will be required to hand in their completed laboratory report or tutorial solutions at the end of the afternoon. See the course schedule for details.
- Problem Sets:** There are no compulsory weekly problem sets, but additional problems will be set each week.
- Class Tests:** There will be two class tests during the semester and will take place on 20 March and 08 May. No medical exemptions are awarded for tests, and students missing a test on medical grounds will need to write one as soon as they recover, otherwise they will be awarded 0 (zero) for the test.
- Assessment:** Class Tests (2 x 15%) – 30%, Laboratory Record – 10%, Final Exam – 60%. To pass the course, a student must obtain a final (aggregate) mark of 50%.
- DP Certificate:** In order to obtain a duly performed (DP) certificate (i.e. to be allowed to write the final exam) students must have obtained an average of 35% for the two class tests, have averaged over 50% for the practicals and attended all of the tutorials.

