

- Instructors:** Dr. Steve Peterson (Coord) / RW James 5.14 / 650.2377 / steve.peterson@uct.ac.za
- Class:** 2nd Period (9:00 – 9:50) / Wed & Thurs / New Learning Centre Lecture Theatre
6th & 7th Period (14:00 – 15:45) / Friday / RW James Lecture Theatre LT3A
Please bring a calculator and writing material as problems are often solved during lectures.
- Textbook:** Physics: Principles with Applications by Giancoli (Prentice Hall, 7th 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 1-4, 6-9 (18 lectures)
Kinematics, vectors, 2D motion, Newton's laws, work and energy, momentum, conservation of energy, center of mass, torque, static equilibrium
Heat & Properties of Matter: Chapters 10, 13-15 (8 lectures)
Density, pressure, equation of continuity, viscosity, specific heat, calorimetry, heat transfer, ideal gas law, thermodynamics, metabolism
Vibrations & Waves: Chapters 11-12 (9 lectures)
Principle of superposition, simple harmonic motion, sound waves, Decibels, Doppler effect
Optics: Chapters 23, 25 (4 lectures)
Reflection, refraction, Snell's law, thin lenses, magnification
Electricity: Chapters 16-19 (8 lectures)
Electric charge, Coulomb's law, electric field, electric potential, Ohm's law, circuits
- Course Tutor:** The course tutor is Tom New (NWXTHO001@myuct.ac.za). He will be available 13:00 – 14:00 on 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 9:20 – 11:20 on Mondays and Tuesdays in the RW James building. The class will be split into two groups (A & B). Group A will do practicals on Mondays and tutorials on Tuesday while Group B will do the opposite. The class split will be posted on Vula.
Students must ensure that they are not late. Students will be required to hand in their completed laboratory report before they leave. 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 three class tests during the semester and will take place on 16 March, 17 April and 21 May on Upper Campus. **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. If you miss a test, you must notify Dr Peterson within 24 hours.
- Assessment:** Class Tests (3 x 10%) – 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 three class tests, have averaged over 50% for the practicals and attended all of the tutorials.

Lectures (2 nd Period WTh & 6 th /7 th Period F)				
Monday	Tuesday	Wednesday	Thursday	Friday
19 Feb M1	20 M2	21 M3	22 M4	23 M5&6
26 Feb A: Prac 1 B: Tut 1	27 A: Tut 1 B: Prac 1	28 M7	01 Mar M8	02 M9&10
05 Mar A: Prac 2 B: Tut 2	06 A: Tut 2 B: Prac 2	07 M11	08 M12	09 M13&14
12 Mar A: Prac 3 B: Tut 3	13 A: Tut 2 B: Prac 3	14 M15	15 M16	16 Test 1
19 Mar M17	20 M18	21 Human Rights	22 H1	23 H2&3
26 Mar A: Prac 4 B: Tut 4	27 A: Tut 4 B: Prac 4	28 H4	29 H5	30 Good Friday
02 Apr	03	04	05	06
Mid Term Break				
09 Apr A: Prac 5 B: Tut 5	10 A: Tut 5 B: Prac 5	11 H6	12 H7	13 H8&9
16 Apr A: Tut 6 B: Tut 6	17 Test 2	18 V1	19 V2	20 V3&4
23 Apr A: Prac 6 B: Tut 7	24 A: Tut 7 B: Prac 6	25 V5	26 V6	27 Freedom Day
30 Apr	01 May Workers Day	02 V7	03 V8	04 O1&2
07 May A: Prac 7 B: Tut 8	08 A: Tut 8 B: Prac 7	09 O3	10 O4	11 E1&2
14 May A: Prac 8 B: Tut 9	15 A: Tut 9 B: Prac 8	16 E3	17 E4	18 E5&6
21 May Test 3	22	23 E7	24 E8	25 Consolidation
28 May Consolidation	29	30	31	01 Jun Exams

Lectures: M: "Mechanics" lecture (Peterson)
H: "Heat & Properties of Matter" lecture (Peterson)
V: "Vibrations & Waves" lecture (Peterson)
O: "Optics" lecture (Peterson)
E: "Electricity" lecture (Peterson)

Venues: Practical experiments meet in RW James Course I Laboratory (PHYLAB1)
Tutorials meet in RW James Room 3B

Practicals: 1: Reaction Time
2: Hooke's Law
3: Linear Motion
4: Flywheel
5: Viscosity
6: Speed of Wave on String
7: Thin Lenses
8: Electric Fields