UNIVERSITY OF CAPE TOWN
DEPARTMENT OF PHYSICS
PHY1031F
2018 COURSE INFORMATION SHEET

INTRODUCTION

PHY1031F and PHY1032S are two semesterised half-courses taken by students who do not plan to continue beyond the first year in Physics. These courses are mainly for students majoring in the Chemical, Molecular and Cellular Sciences and in the Biological, Earth and Environmental Sciences who need Physics as an auxiliary subject. Geomatics students typically complete these courses in their 2nd year.

PHY1031F/1032S should **not** be taken by students who wish to continue with Physics. Students who expect to continue with Physics should register for PHY1004W in their first year.

LECTURES

Lectures are held daily in the third period (10h00 – 10h45) in Lecture Theatre 3A of the R.W. James Building, starting on Monday, 19 February.

The lecturers for the course are Dr Spencer WHEATON (4T4 R.W. James), Dr Dale TAYLOR (4.05 R.W. James), and Dr Tom LEADBEATER (5.12 R.W. James). Consultation times with the lecturers will be advertised on Vula.

COURSE STRUCTURE

Section	***Lectures***	***Lecturers***
Vibrations and Waves (VW)	18	Dr S.M. Wheaton
		Dr D.L. Taylor
Properties of Matter (PM)	8	Dr S.M. Wheaton
		Dr D.L. Taylor
Mechanics (M)	32	Dr S.M. Wheaton
		Dr T. Leadbeater

(refer to detailed Lecture Schedule)

Vibrations & Waves:	*simple harmonic motion, damped oscillations, forced oscillations, resonance, travelling waves, superposition, standing waves, sound waves, sound intensity, Doppler effect*
Properties of Matter:	*elasticity, hydrostatics, hydrodynamics*
Mechanics:	*vectors, kinematics, forces, dynamics, momentum, impulse, work, energy, power, collisions, rotation, rotational dynamics, torque, angular momentum, static equilibrium, gravitation*

TEXTBOOK

The prescribed textbook for the course is College Physics from OpenStax, ISBN 1938168003, www.openstax.org/details/college-physics. This book is available for free to view on the web or to download in PDF format. Print versions will be available for purchase through the Department of Physics office during the second week of class. More details will follow.

A recommended textbook for the course is Knight, Jones & Field: *College Physics* (Pearson). This was the textbook used in previous years and would be a good resource.

LABORATORY/TUTORIAL SESSIONS

Most Science students will be assigned a day of the week (Mon, Wed or Thur) for attendance at afternoon classes in the Physics I Laboratory. Check Vula for these slot allocations.

If you have not been allocated a day, then you should simply choose Monday, Wednesday or Thursday depending on your other commitments and attend sessions on that day for the rest of the semester. Do not inform us of your choice; simply report to the lab on your chosen day.

Afternoon activities will alternate weekly between a session of practical work and a small-group whiteboard tutorial at which students work on problems (in groups of three) with assistance from tutors.

Students will be issued with copies of the laboratory manual in the first week of lectures. All questions regarding the laboratory organisation should be directed to Mr Mark Christians, the Lab Attendant, in the first instance. His office is in the Physics I Lab behind the large chalkboard. The academic in charge of the laboratory is Dr Spencer Wheaton.

Laboratory activities will start in the second week of term with the Hooke's Law practical (refer to detailed Course Schedule)

Students who have previously attended PHY1031F (or an equivalent UCT Physics course) may apply for exemption from the practical component of the course – **note**: **exemption will not be given for the tutorial component**. Exemption is NOT granted automatically. Students wishing to apply for exemption must complete a lab exemption form (available on Vula or from the Course I Lab) and hand it to Mr Christians within the first week of term.

WEEKLY PROBLEM SETS

The weekly problem set (WPS) system will be explained in detail in lectures.

COURSE TUTORS

Jake Gordin and Kimeel Sooknunan will serve as PHY1031F course tutors. The course tutors will assist students with the course material during advertised consultation times.

LECTURE RECORDINGS

All lectures will be recorded and will be available for viewing and download on the PHY1031F Vula site. More details will follow.

CLASS TESTS

The dates of the two class tests are 20 March and 8 May. The start times and venues will be announced in due course. The date of the final examination will be published later.

ATTENDANCE AND EXEMPTIONS

Attendance at practicals, tutorials, tests and examinations is compulsory. Exemption from practicals, tutorials, tests and weekly problem sets will be considered ONLY on medical or compassionate grounds, and will normally require a medical certificate. This documentation must be stapled behind a completed Missed Activity Excuse Form (obtainable on Vula under Resources/Admin) and submitted to the Course Convener within a day of your return to classes.

In the case of a valid excuse, the Course Convener reserves the right to administer a make-up test, WPS or laboratory.

PLANNED SHORT ABSENCE

If a student wishes to be granted an exemption or extension for a course requirement associated with a **planned short absence from the course**, then there is a Planned Absence Form to complete (available on Vula under Resources/Admin). This form needs to be submitted to the Course Convenor at least 3 working days prior to the period in question. Irreversible plans (such as flight bookings) must not be made before approval of leave is granted.

Completion of this form is not required for unplanned absences. These should be dealt with according to the previous section.

PHY1031F COURSE ASSESSMENT

	Component	*% of Final Mark*
(1)	Class tests	24 %
(2)	Afternoon laboratory record	8 %
(3)	Weekly problem sets	6 %
(4)	Laboratory practical test	12 %
(5)	Final examination	50 %

The pass mark is 50 % with no sub-minima in any of the separate assessments.

DP CERTIFICATES

To be allowed to write the final examination, students must be awarded a Duly Performed (DP) certificate for work done. The award of a DP certificate is dependent on a student achieving:

(a) a minimum **class test average** of 35 %;
(b) an **afternoon laboratory record** of at least 50 %; and
(c) attendance at **all** afternoon tutorials.

Any student who fails to meet these requirements will be refused a DP certificate. Students not awarded DP certificates are not permitted to write the final examination.

COURSE ADMINISTRATION

1.	*Vula & Email:* All notices and solutions will be posted on the PHY1031F Vula site. Please ensure that you check your UCT email account regularly, or else set up an auto-forward to your preferred email account.
2.	*Course Marks:* All marks can be viewed on the Physics Marks WebApp: follow the link from Vula.
3.	*Formula Sheets:* Formula sheets will be provided for tests and the exam.

REASSESSMENT

The Physics Department will reassess students who achieve an overall final mark of between (and including) 45 % and 49 % for PHY1031F, i.e. students who are graded with an S (e.g. 47 FS).

The Supplementary Examination will be held in the first week of the second semester.

Students who pass the supplementary examination will be graded as 50 UP – a so-called "unclassified" pass in the subject.

PHY1031F COURSE CONVENOR

Dr Spencer Wheaton

Room 4T4 RW James Building

19 February 2018