

2020 Course information (COVID-19 updated)

As a consequence of UCT's emergency response to the COVID-19 pandemic, all lectures, laboratories and tutorials will take place in an online (distance learning) mode for the second quarter (Q2). For the remainder of the course, all assessments will be of a "continuous" nature. There will be no final examination in June. All assessments will be graded both for DP purposes and for you to receive feedback on your progress and performance. Please see the revised DP requirements and assessment table below.

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Dr. James Keaveney / RW James 5.06 / 650.7180 / james.keaveney @uct.ac.za

Class: Daily Vula Lessons will be posted to guide you through the course material. Lectures will be delivered as Voice over Powerpoint slide videos, supplemented with other materials. This material (including assessments) will be designed to be as asynchronous as possible.

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 – **face-to-face**)
Kinematics, vectors, 2D motion, Newton's laws, work and energy, conservation of energy, center of mass, torque, static equilibrium
Vibrations & Waves: Chapters 11-12 (8 lectures – **4 face-to-face & 4 online**)
Principle of superposition, simple harmonic motion, sound waves, Decibels, Doppler effect
Electricity: Chapters 16-19 (9 lectures – **online**)
Electric charge, Coulomb's law, electric field, electric potential, Ohm's law, circuits
Heat & Properties of Matter: Chapters 10, 13-15 (9 lectures – **online**)
Density, pressure, equation of continuity, viscosity, specific heat, calorimetry, heat transfer, ideal gas law, thermodynamics, metabolism
Optics: Chapters 23, 25 (5 lectures – **online**)
Reflection, refraction, Snell's law, thin lenses, magnification

Course Tutor: The course tutors are Nuraan Majiet (MJTNUR001@myuct.ac.za) and Dodzi Motchon (MTCYAW001@myuct.ac.za). They will be available online (times and days TBD), if you wish to discuss difficulties with the problem sets and any course matters.

Pracs & Tuts: The three remaining practicals will be performed at home. Instructions will be delivered through Vula. You will be required to take the data, do the analysis and then hand in the completed report through Vula Assignments.
Tutorials will not continue in the same manner. There will be opportunities for students to engage with each other, tutors and academic staff online. Further details to follow.

Problem Sets: Problem sets will be assigned weekly. The remaining problem sets are compulsory and will be used as part of the "continuous" assessment framework. Each problem set will be submitted using Vula Tests & Quizzes. There will be a 50% penalty for late submissions.

Class Tests: There will be four class tests during the online portion of the course and will take place on the weeks of 4 May, 25 May, 15 June and 29 June. You will be given a week to complete each test. Full details to follow.

Assessment:	Original Weighting	Online (completed)	Online (new)
Class Tests	2 x 15% = 30% total	1 x 20% = 20% total	4 x 10% = 40% total
Labs	8 x 1.25% = 10% total	3 x 3.3% = 10% total	3 x 3.3% = 10% total
WPS	0	6 x 0% = 0% total	6 x 3.3% = 20% total
Exam	1 x 60% = 60% total	0	0
TOTALS	100%	30% completed	70% new

DP Certificate: In order to obtain a duly performed (DP) certificate students must receive at least 50% for the laboratory record and participate in all class tests.

Final Assess: Students who have met the DP requirements and who achieve an aggregate of 50% or greater will be given a final grade code of "Pass." There will be no final grade beyond the codes "Pass" or "Fail". This is in accordance with the overarching decision made by UCT for F courses in 2020.

2020 Course schedule (COVID-19 updated)

Lectures (2nd Period MTuWTh ANAT LT1 & 6th/7th Period F RWJ LT3A)				
Monday	Tuesday	Wednesday	Thursday	Friday
10 Feb M1*	11 M2**	12 M3*	13 M4*	14 M5&6
17 Feb A: Prac 1 B: Tut 1	18 A: Tut 1 B: Prac 1	19 M7	20 M8	21 M9&10
24 Feb A: Prac 2 B: Tut 2	25 A: Tut 2 B: Prac 2	26 M11	27 M12	28 Feb M13&14
02 Mar A: Prac 3 B: Tut 3	03 A: Tut 3 B: Prac 3	04 M15*	05 M16	06 Test 1
09 Mar M17	10 M18	11 V1	12 V2	13 V3&4
16 Mar	17	18	19	20
<i>Extended Mid Term Break</i>				
20 Apr Week 0	21	22 Intro	23 V5	24 Prac 4
27 Apr Week 1 Freedom Day	28 V6	29 V7	30 V8	01 Workers Day
04 May Week 2	05	06	07	08
Test 2				
11 May Week 3 Prac 5	12 E2	13 E3	14 E4	15 E5
18 May Week 4	19 E7	20 E8	21 E9	22
25 May Week 5	26	27	28 May	29
Test 3				
01 Jun Week 6 Prac 6	02 H2	03 H3	04 H4	05 H5
08 Jun Week 7	09 H7	10 H8	11 Jun H9	12
15 Jun Week 8	16 Jun	17	18	19
Test 4				
22 Jun Week 9	23 O2	24 O3	25 O4	26 O5
29 Jun Week 10	30	01	02	03
Test 5				
06 Jul Week 11	07	08	09	10
<i>Assessments</i>				

Lectures:

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

Practicals:

1: Reaction Time
 2: Hooke's Law
 3: Linear Motion
 4: Simple Harmonic Motion
 5: Electricity
 6: Heat/Fluids