

PHY1012S

Course Information Sheet

July 30, 2018

Course Description:

PHY1012S is the first semester introductory physics course for engineers taught in the second semester of the academic year.

Entrance Requirements:

Consult the engineering handbook.

Course Outline:

Vectors, kinematics, dynamics, work, energy, power, conservative and non-conservative forces, friction, impulse, momentum, collisions, rotation, rotational dynamics, torque, rotational inertia, rotational energy, angular momentum, fluids, pressure, buoyancy, fluid dynamics, elasticity, elastic moduli, phases of matter, temperature, phase changes, ideal gas laws, heat, calorimetry, heat transfer.

Logistics:

Lecture Room: Upstairs, PHYLABI, R. W. James

Lecture Time: 9am – 9:45am

Lecture Days: M – F

Tutorial Time: 2pm-5pm, MWF

Tutorial Room: Upstairs Course 1 Laboratory

Laboratory Time: 2pm-5pm, Friday

Laboratory Room: Upstairs Course 1 Laboratory

Textbook: Knight *Physics: for Scientists and Engineers*

Website: <http://vula.uct.ac.za>

Marks:

Lab Reports: 7.5%

Lab Exam: 7.5%

WPS: 5%

2 Class Tests: 30%

Exam: 50%

DP:

-Receive a class record of at least 35% (based on all grades available at the time of publishing DP lists)

-Participate in ALL assessments and activities (see Attendance and Exemptions section for exceptions)

Attendance and Exemptions:

Attendance at practicals, tutorials, tests, and examinations is compulsory.

Weekly problem sets (WPS) are online and are included in your Class Record and for your DP requirement.

Requests for exemption from the practicals must be made using the form found on Vula under Resources/Admin. Should an exemption be granted, the lab marks from 1012F will be used for 1012S. Note that you *must* turn in the form by August 25 to Mr. Mark Christians in PHYLABI in the R. W. James building.

All other exemptions from any of the above will be considered ONLY on medical or compassionate grounds, and will normally require a medical certificate or an official letter of support. 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.

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

Important Dates:

Test 1: 5:30pm – 7pm Tuesday, September 4, Course 1 Laboratory

Test 2: 5:30pm – 7pm Tuesday, October 9, Course 1 Laboratory

Exam: TBD

Lecturers:

Dr. Katie Cole

katie.cole@uct.ac.za

R. W. James, Room 404

Consultations: Wednesdays, 1pm and by appointment

Dr. W. A. Horowitz (Convenor)

wa.horowitz@uct.ac.za

R. W. James, Room 406

Consultations: Fridays, 1pm and by appointment

Dr. Tom Leadbeater

tom.leadbeater@uct.ac.za

R. W. James, Room 512

Consultations: Wednesdays, 2pm

Tutor:

Mr. Martins Maigari

MGRMAR004@myuct.ac.za

Menzies, Room 7.15

Consultations: Mondays on Practical weeks and Wednesdays on Tutorial weeks, 10am-12pm and by appointment