

# Physics Syllabus

## 2019 – 2020

Welcome to physics class. This course will cover the MEES physics curriculum. You will be learning a lot about how the world works – some of which may or may not make sense the first time. It will by the end of the year.

### **Communication**

I will rely very heavily on my website ([icdt.ca](http://icdt.ca) – stands for I can do this.) to let you know what we are learning, the dates for tests, and information about assignments including when they are due. Please, get in the habit of checking the website regularly as you are responsible for knowing the information posted there. If you need to miss or have missed class for any reason, please let me know either in class or by email as early as possible.

### **Textbook**

We will use ‘Quantum, Physics, Student Textbook, Third Year of Secondary Cycle Two’ published by Chenelière Education. The textbook is our source for the content of the course. Please read the relevant sections before coming to class. Since we have such a good textbook, I will not be reproducing the book on the board in class. I will explain the new material as we learn it, and then we will practice solving problems relevant to the topic in class. Reading the chapter sections ahead of time will significantly help you learn the material. For some students, this represents a change from how they have learned in the past. Some might find it hard in the beginning, but with a positive outlook, you will adapt to this methodology. I structure the course more closely to a CEGEP course than what you are used to. I hope this will help you next year.

### **Homework**

The homework will be the problems at the end of the sections and chapters in the textbook. Each student is responsible for solving the problems, comparing their results with the posted solutions, and getting help if they need it. I will not collect homework. The problems for the tests will follow closely the problems in the book. If you can solve all the problems in the book under test conditions, you will do well. I strongly encourage students to work on the homework together. You will learn from each other if you do. Plan spending about two to three hours outside of class studying physics for every hour in class. Please, ask me to solve problems in class that you are having trouble with, and I will do so whenever possible.

### **Problem Solving Method**

I teach a seven-step problem-solving method generalized from Randall Knight’s physics textbook used at Dawson. It is not the only way to solve problems, but if you adopt it early in the year, you will be able to solve the more difficult problems more easily. It is worth expanding your ways of problem solving, and add this method to your skill set. This methodology will serve you well next year at CEGEP. Refuse to learn it at your own risk.

Read your assignments and test questions carefully. It is surprising how many mistakes and lost points come from not following the instructions. Do not make this mistake.

## **Grades**

Tests will account for 60 % of the grade, and the labs and essay will account for 40 %. I do not grade on a curve so it makes sense for students to study together and help each other learn. I highly recommend this. We usually learn better from our peers than from the teacher.

## **Math Skills**

Physics uses mathematics to create a model of some aspects of the real world. This allows us better understand the world we live in. It also means that we will have to learn some new math concepts together, and get better at manipulating algebraic equations. Every year that you have taken math, you have gotten better at the subject. This year is no different. You will go beyond using the triangle to solve equations this year. It may make you uncomfortable, but that is okay. Learning something new is often uncomfortable. If you learn to tolerate the unease that comes from being in a new situation and pushing your understanding, you will do fine.

‘Dr. Bob’

Mr. Schweitzer

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Here is the order in which we will study the material in the text book so you can stay ahead in your reading.

Ch. 6.1, 6.2	Ch. 14.1, 14.2, 14.3
Ch. 7.1, 7.2, 7.3, 7.4, 7.5, 7.6	Ch. 15.1, 15.2
Ch. 8.1, 8.2, 8.3, 8.4	Ch. 16.1, 16.2, 16.3, 16.4, 16.5
Ch. 9.1, 9.2, 9.3, 9.4	Ch. 17.1, 17.2
Ch. 10.1, 10.2, 10.3	Ch. 1.1, 1.2
Ch. 11.1, 11.2, 11.3	Ch. 2.1, 2.2, 2.3, 2.4, 2.5
Ch. 12.1, 12.2, 12.3, 12.4, 12.5, 12.6	Ch. 3.1, 3.2, 3.3, 3.4, 3.5
Ch. 13.1, 13.2, 13.3	Ch. 4.1, 4.2, 4.4

## Evaluations for the school year

Term 1 (20 % of year) – The material in this term is relatively easy. Ware overconfidence!

C1 mark (40 % of term)

Vector lab

C2 mark (60 % of term)

Ch. 6 & 7 Test

Ch. 8 Test

Term 2 (20 % of year) – Now it begins. Projectile motion (Ch. 12) is more challenging.

C1 mark (40 % of term)

Essay on Earth's position in the Solar System, Galaxy, or Universe – including space travel, past and future asteroid strikes, and colonizing other planets or solar systems.

C2 mark (60 % of term)

Ch. 9 & 10 Test

Ch. 11 Test

Mid-year Exam (alternating years with chemistry)

Term 3 (60 % of year) – You've come this far. Now bring it home!

C1 mark (40 % of term)

Ramp lab

Catapult lab

C2 mark (60 %; 30 % test average, 30 % exam)

Ch. 12 Test

Ch. 13 & 14 Test

Ch. 15, 16, & 17 Test

Ch. 1 & 2 Test

Ch. 3 & 4 Test

Year-end exam