PHYSICS 11 – ONLINE Course Outline

Read this course outline before starting your course

Course Overview
This course consists of 2 MODULES. Each module consists of 4 UNITS. A "Learning Guide" is provided at the beginning of each unit, and must be completed and submitted for marking. Within each Unit are 2-3 online quizzes that allow 2 attempts with the highest mark retained. An online multiple-choice exam is written at the end of each unit. Students will have to make arrangements for supervision at their "testing center" to write these tests. After the four units in each module are completed, students write a supervised module test covering those 4 units. The Module Test has both an online and written component. Both Module Tests are also supervised tests and arrangements with the testing center will need to be made.

Course Evaluation

Online Quizzes	10%
Learning Guides	10%
Projects*	25%
Unit Exams	25%
Module Tests	30%

*Projects are scored cumulatively and added in once one project per unit is complete only.
*A minimum of one project per unit is required for course completion

Accessing Your Course
You will be given a password for your registration course at moodle.sd57.bc.ca. If you have problems logging in, please contact the school.

Materials Required for the Course
Scientific Calculator; an email account;

Important ** Important ** Important

1. Email is one of the best ways to communicate with your teacher. If leaving a message by phone, be sure to leave a clear message with your name and phone number.
2. Report Cards are sent out every 3 months following the month in which you registered for the course.
3. If you change your address, phone, or email address contact your teacher right away.
4. **To** book a unit exam or module test call the school. Our test supervisor will help arrange a time that works for you. If leaving a message, speak clearly and leave your full name and phone number.
5. Tests written prior to assignment submissions are held for marking until the assignments are received.
   There are no unit exam or module test rewrites and no assignment resubmissions. Do not send in blank questions. Seek the help you need before your paper is marked, not after.
6. Throughout the Lessons are examples with answer keys provided. Try the examples on your own before viewing the answers. Checking your work, helps check your understanding as you proceed through the course.
7. **Updates, Errors, and Omissions** - If you find a mistake that has not been identified, help others by reporting it to your teacher.
8. **Lost Assignments** - If an assignment is lost in transit or goes missing, students are required to resubmit the assignment. It is a good idea to keep a copy of your assignment.
9. Contact your teacher if you will not be working on your course for a period of time. You are responsible for keeping your teacher informed of your work on your course.
10. **Academic Probation and Withdrawal** - Students must be actively working on their courses on a regular basis as indicated by submission of assignments, test completion, or communication with their teacher. Lack of regular activity results in a student being placed on Academic Probation. Continued lack of activity then results in withdrawal from the course. Contact you teacher if you need more than three weeks to submit your next assignment or write your next test, or if you are getting behind. It is your responsibility to communicate your circumstances to your teacher.
11. **Course Expiry** - You have 12 months from the start of your course before your course expires without extension. Upon expiry, all work not done receives a mark of zero and a final grade is calculated.
12. **If you need to complete a percent of this course to attend your school valedictory ceremony**, **you must have that percent of the course completed and turned in by April 15 at the latest.** Previous experiences have shown that failure to meet this deadline will prevent you from participating in the Valedictory Ceremony.

Physics 11 – Suggested Completion Schedule

DE allows students flexibility in school work; sticking to a schedule ensures timely completion to achieve your goals. **Use the following table to complete your course in 19 weeks (1 semester)**. You may complete the course faster or slower. You have one year until your course expires. (If you choose Optics and Light, allow more time for Unit 7)

Week	Activities
Week 1	**Unit 1 – Lessons 1 – 4**
Week 2	**Unit 1 – Lessons 5 - 7**
Week 3	**Learning Guide & Unit 1 Project submitted, Unit 1 Quizzes completed, Math Tools Exam**
Week 4	**Unit 2 – Lesson 1 – 4**
Week 5	**Unit 2 – Lessons 5 – 7**
Week 6	**Unit 2 - Learning Guide & Project submitted, Unit 2 Quizzes completed**
Week 7	**Unit 3 – Lessons 1 – 3 & 1D Kinematics Exam**
Week 8	**Unit 3 - Lessons 4 – 8**
Week 9	**Unit 3 - Learning Guide & Project for Unit 3 & Unit 3 Quizzes Completed, Dynamics Exam**
Week 10	**Unit 4 - Lessons 1 – 2**
Week 11	**Unit 4 - Lessons 3 – 4, Learning & Project submitted, Unit 4 Quizzes Completed, Momentum Exam**
Week 12	**Review for and Write Module 1 Test**
Week 13	**Unit 5 – Lessons 1 – 3**
Week 14	**Unit 5 - Lessons 4 - 6 & Learning & Project submitted, Unit 5 Quizzes Completed**
Week 15	**Unit 6 - Lessons 1 – 3, Energy Exam**
Week 16	**Unit 6 – Lessons 4 – 7 & Learning & Project submitted, Unit 7 Quizzes Completed, Electrical Circuits Exam**
Week 17	**Unit 7 – First Option (all) – Learning Guide submitted, Quiz(zes) Completed, Exam**
Week 18	**Unit 7 – Second Option (all) - Learning Guide & Project submitted, Quiz Completed, Exam**
Week 19	**Review and Write Final Exam, any additional Project work submitted**

Unit 1 – Math Tools: Math in Physics; Scientific Notation; Significant Figures; Equation Solving; Trigonometry; Units of Measure; Graphing.

Unit 2 – 1-D Kinematics: Intro to Kinematics; Problem Solving; Graphing d vs t; Graphing v vs t; Acceleration on Graphs; Reading Graphs; Working with Equations; Relative Velocities.

Unit 3 – Dynamics: Types of Forces; Free Body Diagrams; Newtown's First Law; Newton's Second Law; Newton's Third Law; 1-D Force Problems; Pulley Problems.

Unit 4 – Momentum: Concept of Momentum; Conservation of Momentum; Newton's Third Law; Collisions and Explosions; Impulse, Forces, & Momentum.

Unit 5 – Work & Energy: Work; Energy; Potential Energy; Kinetic Energy; Conservation of Energy; Heat Energy; Heat Transfer; Specific Heat Capacity; Power; Horsepower; Efficiency.

Unit 6 – Electrical Circuits: Electrostatics, Charges, Current, Circuits, Circuit Schematics, Ohm's Law, Circuit Protection, Series and Parallel Circuits, Combined Resistance, Kirchoff's Voltage Law, Kirchoff's Current Law, Terminal Voltage, Internal Resistance, Power, Efficiency, Power Transmission.

Unit 7 – Choose two of the following:

- Quantum Physics: Quantum Theory; Wave-Particle Duality; Photoelectric Effect; Heisenberg's Uncertainty Principle; Wave Nature of Light; Applications of Quantum Theory
- Special Relativity: Special Relativity Theory; Relative Motion (Time Dilation; Length Contraction; Mass Increase); Energy-Mass Equivalency.
- Nuclear Physics: Radioactivity; Nuclear Reactions; Applications of Nuclear Processes.
- Waves & Optics: Wave Properties; Doppler Effect; Wave Behaviours; Polarization; Standing Waves; Ray Diagrams; Curved Mirrors; Ray Refraction; Index of Refraction; Snell's Law; Lenses, Lens Refraction

This course is based on the learning outcomes for Physics 11 viewable at:
https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/10-12/science/en_s_11_phy.pdf