

**THAMES VALLEY DISTRICT SCHOOL BOARD
SAUNDERS SECONDARY SCHOOL**



Course Outline 2018

Course Name: Physics, Grade 11
Course Type: University Preparation
Teacher(s): D. Kleuskens
Textbook(s)/Essential Resource Materials: Physics 11 (Nelson)

Course Code: SPH3U
Grade Level: 10
Credit Value: 1

Course Description/Rationale: This course develops students' understanding of the basic concepts of physics. Students will explore kinematics, with an emphasis on linear motion; different kinds of forces; energy transformations; the properties of mechanical waves and sound; and electricity and magnetism. They will enhance their scientific investigation skills as they test laws of physics. In addition, they will analyse the interrelationships between physics and technology, and consider the impact of technological applications of physics on society and the environment.

Outline of Course Content:

Expected
End Date

Kinematics <ul style="list-style-type: none"> analyse technologies that apply concepts related to kinematics, and assess the technologies' social and environmental impact investigate, in qualitative and quantitative terms, uniform and non-uniform linear motion, and solve related problems demonstrate an understanding of uniform and non-uniform linear motion, in one and two dimensions 	
Forces <ul style="list-style-type: none"> analyse and propose improvements to technologies that apply concepts related to dynamics and Newton's laws, and assess the technologies' social and environmental impact investigate, in qualitative and quantitative terms, net force, acceleration, and mass, and solve related problems demonstrate an understanding of the relationship between changes in velocity and unbalanced forces in one dimension. 	
Energy and Society <ul style="list-style-type: none"> analyse technologies that apply principles of and concepts related to energy transformations, and assess the technologies' social and environmental impact investigate energy transformations and the law of conservation of energy, and solve related problems; demonstrate an understanding of work, efficiency, power, gravitational potential energy, kinetic energy, nuclear energy, and thermal energy and its transfer 	
Waves and Sound <ul style="list-style-type: none"> analyse how mechanical waves and sound affect technology, structures, society, and the environment, and assess ways of reducing their negative effects investigate, in qualitative and quantitative terms, the properties of mechanical waves and sound, and solve related problems demonstrate an understanding of the properties of mechanical waves and sound and of the principles underlying their production, transmission, interaction, and reception 	
Electricity and Magnetism <ul style="list-style-type: none"> analyse the social, economic, and environmental impact of electrical energy production and technologies related to electromagnetism, and propose ways to improve the sustainability of electrical energy production investigate, in qualitative and quantitative terms, magnetic fields and electric circuits, and solve related problems demonstrate an understanding of the properties of magnetic fields, the principles of current and electron flow, and the operation of selected technologies that use these properties and principles to produce and transmit electrical energy 	

Assessment and Evaluation of Student Performance:

Term Work (70%)

Category	Percentage of Term Grade	Meaning	Types of Assessment
Knowledge	20.0%	Understanding of facts, terms, theories and relationships between concepts.	Tests, quizzes, class assignments, homework questions.
Inquiry	20.0%	Planning and performing tasks, recording and analyzing data, problem solving and using equipment and materials.	Laboratory activities, investigations, practical tests.
Communication	20.0%	Communicating information and ideas with clarity by using a variety of formats, such as oral and written presentations with an emphasis on an effective use of appropriate technology.	Laboratory reports, essays, presentations, poster projects tests.
Applications / Making Connections	20.0%	Understanding the connections between science, technology, society and the environment; assessing the impact and proposing courses of action.	Projects, laboratory activities, discussion participation, tests.

Final Summative Evaluation (30%)

- Performance task(s) and/or practical lab evaluation (10%) (inquiry, application, communication)
- Final Exam (20%) (knowledge, application communication)

When You Are Away:

- If you know in advance that you will be away, let your teacher know and get any work you will miss.
- If you are absent it is YOUR responsibility to catch up on missed labs, assignments, homework, etc....
- If you miss a test or an assignment you will have to arrange with your teacher a time to make alternative arrangements.

Things You Will Need:

- lined paper, pen, pencil, ruler
- 3 ring binder
- scientific calculator
- *safety glasses

**These are mandatory for all lab work. A class set of glasses will be provided but it is advised that students have their own pair. If you do bring your own pair you must have them approved by the teacher prior to your first lab. It will be your responsibility to bring them on the appropriate day.*