



York Region District School Board
Stephen Lewis Secondary School
 Course Outline & Evaluation Profile 2015 – 2016
Grade 11 University Physics – Science Department

Teacher: J. Findlay Phone: 905-326-7994 ext. 322 V.M. 681 Office Room #: 322 email: Justin.findlay@yrdsb.ca Extra Help Availability: Thursdays at Lunch or Apt. Classroom: 324	Course Code: SPH3UI Credit Value: 1.0 Prerequisites: Grade 10 Academic Science Subject Head: Ms. Brosseau
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Course Description:

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; electricity and magnetism; and light and optics. 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. Students continue to learn to apply scientific investigation skills in four broad areas: **initiating and planning** (i.e. making predictions about ideas, issues, problems and formulating questions or hypotheses and planning investigations to answer those questions or test hypotheses); **performing and recording** (i.e. gathering and organizing data and gathering observations from safely conducted inquiries); **analysing and interpreting** (i.e. evaluating the adequacy of data from inquiries or information from research sources and drawing and justifying conclusions through critical analysis of data; and **communicating** (i.e. using a variety forms to communicate ideas, procedures, and results).

- Units of Study:**
- [1] Kinematics
 - [2] Forces
 - [3] Energy and Society
 - [4] Waves and Sound
 - [5] Electricity and Magnetism

Achievement Categories & Weighting:
 Teachers will ensure that student learning is assessed and evaluated in a balanced manner with respect to the four categories, and that achievement of particular expectations is considered within the appropriate categories.

These categories will be weighted as follows:

Knowledge & Understanding	25%
Communication	10%
Thinking	20%
Application	15%

Assessment and Evaluation:

- **70%** of final grade will be based on evaluations conducted throughout the course.
- **30%** will be based on final evaluations administered towards the end of the course
(Refer to Assessments of Learning)

<u>Assessments of Learning</u>	
Evaluations Throughout Semester: 70% of final grade	
<i>(Subject to change with advance notice given)</i>	
Assessment Type:	Categories Assessed:
→ Quizzes	The categories represent four broad areas of knowledge and skills and are often interrelated. Teachers will ensure that student work is evaluated in a balanced manner with respect to the four categories, and that achievement of particular expectations is considered within the appropriate categories.
→ Tests	
→ Labs (performance skills, analysis questions, formal reports, design)	
→ Major research assignments	
→ Mini-assignments	
→ Oral Performance Tasks (small & large group)	
→ Presentations	
→ Independent Study Units	
Final Evaluation: 30% of final grade	
→ Culminating Activity (5 %)	
→ Final Exam (25 %)	

Materials/Resources

You will receive a textbook, **Nelson Physics 11: University Preparation**. If you fail to return your assigned text you will be asked to pay the replacement cost of **\$90.00** for the textbook. Fees will be charged for damage to any loaned materials.

Course Moodle

Assessment, Evaluation and Communication of Student Learning and Achievement: The primary purpose of assessment and evaluation is to improve student learning and to help students assume responsibility for their learning. Mid-semester and final marks are determined through evaluations or **Assessments of Learning** which typically occur towards the end of a unit and end of semester. During the learning process information about a student's learning is gathered and used by the teacher and student to inform decisions that affect goal-setting and teaching in the classroom. The data gathered as **Assessment as Learning** and **Assessment for Learning** do not carry a mark weight but do play a crucial role in student success as they help inform the teacher and the student about each student's progress. All types of assessments allow teachers to provide descriptive feedback that is clear, specific, meaningful, and timely to support improved learning and achievement.

Learning Skills and Work Habits: Responsibility, organization, independent work, collaboration, initiative, self-regulation will be reported by a letter (E = Excellent, G = Good, S = Satisfactory, N = Needs Improvement). These skills and habits support a high level of success in meeting the course expectations, in addition to contributing to the development of positive life and work skills for the future.

Timely Completion and Submission of Assignments for Evaluation: Students are responsible for providing evidence of their learning within established timelines. For students who know in advance that they are unable to complete an assignment/assessment, they must communicate with the teacher before the due date. For a student who does not approach the teacher PRIOR to the due date for the assignment, OR a student who misses performance assessments (presentations, demonstrations, tests), the following interventions may be applied to address late and missed assignments where, in the teacher's professional judgement, it is appropriate to do so:

1. Talking with the student to determine why s/he was absent.
2. Completing a "Student Success Plan". The student agrees to complete and submit the same or an alternative assignment or performance task on the newly negotiated date/time.
3. Asking the student to submit partly completed work if it can be assessed. This assessment may include giving feedback so that the assignment can be completed.

4. Planning appropriate interventions which may include additional support from the subject teacher, Guidance, Special Education, ESL, Student Success and Administration to further prepare the student for the assessment.
5. Contacting the student's parents/guardians and/or the student who is over 18, to make them aware of the situation and action plan for success.
6. Deducting up to 10% from the final mark of a late assignment/performance.

Note: A mark of zero is recorded for missing assignments/performance if the student still does not submit evidence of learning after interventions have been applied/offered. Special circumstances may be discussed with teachers/administrators.

Academic Honesty: Plagiarism means representing someone else's ideas, writing, design or technical work as your own. Students must provide original evidence of their learning and appropriately acknowledge the work of others. Any use of the work of others (whether published, unpublished or posted electronically) must include proper reference, citation, or acknowledgement. **Cheating** is an attempt to gain an unfair advantage to misrepresent the student's learning in an evaluation or assignment. Plagiarism or cheating in any of its forms (copying from another student or allowing someone to copy assignments/tests, using notes to complete a test without the approval of the teacher, obtaining/stealing a copy of a test, using technology inappropriately, etc.) will result in behavioural and academic consequences because of its negative impact on the individual student's learning and the learning environment of other students. Students are expected to actively seek clarification and support to prevent plagiarizing and cheating. Please refer to the student handbook for more details.

Technological Devices: Stephen Lewis Secondary School supports the use of technology to enhance learning. Students are expected to use technology respectfully at all times. Students who use their personal devices in the classroom without teacher permission and/or when teacher-directed instruction is occurring disrupt the learning environment for all. Working together we can ensure the appropriate use of technology by all members of our school community. There are consequences for students who choose to disrupt the learning environment and parents/guardians will be contacted.

I have read and understood the above guidelines.

Student Name: (please print) _____ Student Signature: _____

Parent Signature: _____ Date: _____

Parent email: _____ Parent contact #: _____

The above guidelines were informed by the YRDSB document, *Assessment, Evaluation and Communication of Student Learning and Achievement*, 2011 and *Growing Success: Assessment, Evaluation and Reporting in Ontario Schools*, Ontario Ministry of Education, 2010 and *The Ontario Curriculum, Science, Grade 9 and 10*, Ontario Ministry of Education, 2008.

Categories of Knowledge and Skills

Knowledge and Understanding

Subject-specific content acquired in each course (knowledge), and the comprehension of its meaning and significance (understanding).

- knowledge of content (e.g., facts, terminology, definitions, safe use of equipment and materials)
- understanding of content (e.g., concepts, ideas, theories, principles, procedures, processes)

Thinking and Investigation

The use of critical and creative thinking skills and inquiry, research, and problem-solving skills and/or processes.

- use of initiating and planning skills and strategies
- use of processing skills and strategies
- use of critical/creative thinking processes, skills, and strategies (as they apply to new and different contexts)

Communication

The conveying of meaning through various forms.

- expression and organization of ideas and information (e.g., clear expression, logical organization) in oral, visual, and/or written forms (e.g., diagrams, models, paragraph writing)
- communication for different audiences (e.g., peers, adults) and purposes (e.g., to inform, to persuade) in oral, visual, and/or written forms
- use of conventions, vocabulary, and terminology of the discipline in oral, visual, and written forms (e.g., symbols, formulae, scientific notation, SI units)

Application

The use of knowledge and skills to make connections within and between various contexts.

- application of knowledge and skills in familiar contexts
- transfer of knowledge and skills to unfamiliar contexts
- making connections between science, technology, society, and the environment
- proposing courses of practical action to deal with problems relating to science, technology, society, and the environment

Assessment as Learning and Assessment for Learning

You will be given a variety of chances and ways in which to demonstrate your learning throughout a unit. The evidence gathered will allow the teacher and student to modify teaching and learning strategies to improve student achievement. This form of assessment should be used by students to self-regulate their learning, determine areas where they need to improve, and seek out the appropriate resources (teacher, peer, help room, textbook, online sources, other books, moodle, etc.) that will allow them to reach their goals. Examples of assessments used *as* and *for* learning include:

Practice quizzes	In class activities	Homework	Discussion	Interview	Conferencing
Questioning	Graphic Organizers	Peer Teaching	Teacher/Peer edit	Exit cards	Checklists
Journals	Learning log	Reflections	Concept Attainment	Think / Pair / Share	Oral Explanation
Review	Brainstorming	Observation	Performance	3,2,1	Model Making
Thumbs up/down	Student exemplars	Whiteboarding	2 or 3 before me	Vocabulary Games	Misconceptions
Four Corners	Highlighting Text	Jigsaw	Placement	KWL	Mind map
Concept Map	Quick Write	Value Line	Task Chunking	Literacy	Portfolio
Demonstration	Simulation	Case Study	Graffiti	Guided Reading	Inside/Outside circle
Note-making	Pre-lessons	Role play	Survey	Word Wall	Video Response
PMI	Numbered Heads	Timed Retell	Informal debate	Snowball	Warm-up activity
Anticipation guide	Rapid Writing	Venn Diagrams	Labs	Least/most important ideas	Working with manipulatives

Attendance and Punctuality

Attendance and Punctuality are directly correlated to your achievement in this science course. Being in class every day and on time will allow you to listen to instructions, understand the learning goals, participate in planned classroom activities, and work towards achieving the success criteria.

If you are aware of an absence from class ahead of time, such as a field trip, sporting event, or medical appointment, it is your responsibility to let your teacher know. It is often possible for you to pick up any work/instructions for the lesson you will be missing that day so that you don't fall behind. Your teacher can also make plans with you about any evaluations - tests, quizzes, assignments and labs – scheduled for that date.

In order to prevent falling too far behind in the event of an unexpected absence, it is a good idea to choose one to three people in the class that you will be able to talk to in order to find out what you missed. These students may be able to pick up worksheets for you and pass along important instructions.

You are responsible for work missed due to absences. Here are some tips for catching up on missed work:

1. Contact a peer in your classroom to find out what took place in class. If possible, try to complete any work you can prior to arriving back in class.
2. Refer to the course moodle for any updates.
3. Upon returning to class, borrow a students' notebook and make copies of notes missed.
4. Pick up and complete hand-outs provided by your teacher during your absence. Usually there is an extra-handouts binder from which these can be retrieved.
5. Contact your teacher for any further help.

Learning partners:

A learning partner is a member of the class that you can contact in case of an absence in order to catch you up on missed materials. Please find a minimum of two people in the class that you can count on for this purpose:

Name: _____ Phone: _____ Email: _____

Name: _____ Phone: _____ Email: _____

Tips for Success in Science

1. **Respect the learning environment.** The time you spend in class each day is your best opportunity to grasp new concepts, get a head start on your homework, and ask questions. Be sure to maximize this time!
2. **Take an interest in the subject matter.** The more connections you can make with the material you study, the easier it will be to motivate yourself and learn.
3. **Keep an agenda.** It is crucial that you keep track of upcoming deadlines in all subjects and manage your time accordingly.
4. Attend all classes and keep an organized notebook.
5. **Take initiative.** Sometimes this will mean asking questions when you are having difficulties. Sometimes it will mean finding the appropriate resources in order to answer the question yourself. Participate and contribute equitably to group assignments, projects, and presentations.
6. **Take responsibility for and assess your own learning.** Do you understand the course content and skills? Set specific goals, plan your next steps for learning, and follow through on your goals. See your teacher for help with this if you are unsure.
7. **Ask for help.** Request assistance from your course teacher. Make appointments for extra help as soon as you are experiencing difficulty. You can also seek help from your Special Ed. teacher, ELL teacher, Student Success teacher, Guidance counselor. Attend the Science Study Hall open Tues. to Fri. at lunch in Rm. 325.
8. **Complete HOMEWORK and/or PRE-LESSONS daily** to ensure that you determine what you know and do not know about the day's lesson. Re-read, rewrite, reflect on the day's lesson. The next day you will be able to reinforce your understanding or ask for clarification as homework is taken up.
9. **Manage your commitments outside of the classroom.** Your academic performance should be a priority. Consider how a part-time job and/or extracurricular activities are impacting your achievement. Talk to your parents and teachers when you are experiencing difficulty balancing your schedule.
10. **Maintain your character.** Emotional intelligence is just as important as academic achievement in determining your success in high school. Be honest with your teachers and your parents, and respect your fellow students' right to learn in the classroom at all times. Produce and submit your own work.
11. **Have fun!!!** Start each day with a positive attitude, and remember to find time to enjoy yourself.

Science Safety in the Classroom and Laboratory

Safety in the science classroom is **everyone's** responsibility. As science student, you share the responsibility with teachers, peers, and other school staff to ensure your own safety and the safety of others while performing, preparing for, and concluding laboratory activities.

Prior to participating in any laboratory activity, you are expected to read through the safety rules below and acknowledge you understand your roles and responsibilities as a student for safety in the science classroom.

I understand that I have a responsibility for safety when working in the science laboratory and classroom. When working in the science laboratory or classroom, I agree to:

1. Always listen to instructions provided by your teacher. Always follow instructions. This will help prevent accidents.
2. Always act sensibly in the laboratory. This will prevent tripping, falling, spillages, and breakages.
3. Tie long hair back, avoid loose clothing/ jewelry or keep loose clothing/jewelry tucked in, remove hats, and wear closed toe shoes when doing experiments or activities.
4. Report all accidents, spills and breakages at once. This will prevent any further damage or injury.
5. Keep benches and floor clear of coats and bags. This will prevent accidents caused by tripping and spillages.
6. Always keep your laboratory work area clean and tidy, and put things away. Follow your teacher's instructions for the proper disposal of chemicals after a laboratory experiment or activity. This will prevent accidents to you and others.
7. Never eat or drink in the laboratory. This will prevent infections and poisoning. Many chemicals are poisonous.
8. Use the gas, electricity, water, and electric heaters for experiments only and under the direct supervision of your teacher. This will prevent damage to yourself, your classmates, and to the equipment through fire, electric shock, and burns.
9. Use laboratory equipment safely and as instructed by the teacher for its intended purpose only
10. When using a Bunsen burner, make sure long hair is tied back and loose clothing tucked in to keep it away from the flame. This will prevent personal injury due to fire.
11. When conducting an experiment, always stand up; never sit down. You can then move out of the way more quickly in the event of an accident, such as a spill.
12. Wear appropriate eye protection (even when wearing prescription eye glasses or contact lenses) and other personal protective equipment when told to do so. This will prevent you being injured.
13. Never attempt to handle broken glass. Alert the teacher immediately. This will prevent cuts to yourself and others.
14. If any chemical gets on your hands, or on any other part of your body, inform teacher and wash it off immediately with water. This will prevent personal injury and/or damage to clothing.
15. Be an active participant in the review and implementation of the science safety rules.

I understand that failure to follow these safety rules and/or any actions that jeopardize the safety of others will impact on my ability to participate in science experiments or activities.

I, _____ (print your name) acknowledge and understand my roles and responsibilities for safety in a science laboratory.

Student Signature: _____ Date: _____

I, _____ (parent/guardian name) acknowledge and understand my child's roles and responsibilities for safety in the science laboratory.

Parent/ Guardian Signature: _____ Date: _____