CURRICULUM ALIGNMENT – Baseload vs. Peak Demand

Ontario

Grade	Course Name and Number	Strand	Expectations
9	Science, Grade 9 (SNC1D)	A. Scientific Investigation Skills and Career Development	**Overall Expectation A1:** Demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analyzing and interpreting, and communicating).
9	Science, Grade 9 (SNC1D)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.6:** Gather data from laboratory and other sources, and organize and record the data using appropriate formats, including tables, flow charts, graphs and/or diagrams.
9	Science, Grade 9 (SNC1D)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.10:** Draw conclusions based on inquiry results and research findings and justify their conclusions.
9	Science, Grade 9 (SNC1D)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.11:** Communicate ideas, plans, procedures, results, and conclusions orally, in writing, and/or in electronic presentations, using appropriate language and a variety of formats (e.g. data tables, laboratory reports, presentations, debates, simulations, models).
9	Science, Grade 9 (SNC1D)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.12:** Use appropriate numeric, symbolic and graphic modes of representation, and appropriate units of measurement (e.g. SI and imperial units).
9	Science, Grade 9 (SNC1D)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.13:** Express the results of any calculations involving data accurately and precisely.
9	Science, Grade 9 (SNC1D)	E. Physics: The Characteristics of Electricity	**Overall Expectation E1:** Assess some of the costs and benefits associated with the production of electrical energy from renewable and non-renewable sources and analyze how electrical efficiencies and savings can be achieved, through both the design of technological devices and practices in the home.
9	Science, Grade 9 (SNC1D)	E. Physics: The Characteristics of Electricity	**Specific Expectation E1.3:** Produce a plan of action to reduce electrical energy consumption at home (e.g. using EnerGuide information when purchasing appliances) and outline the roles and responsibilities of various groups (e.g. government, business, family members) in this endeavour.
9	Science, Grade 9 (SNC1D)	E. Physics: The Characteristics of Electricity	**Specific Expectation E2.1:** Use appropriate terminology related to electricity, including but not limited to: ammeter, amperes, battery, current, fuse, kilowatt hours, load, ohms, potential difference, resistance, switch, voltmeter and volts.

9	Science, Grade 9 (SNC1P)	A. Scientific Investigation Skills and Career Development	**Overall Expectation A1:** Demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analyzing and interpreting, and communicating).
9	Science, Grade 9 (SNC1P)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.6:** Gather data from laboratory and other sources, and organize and record the data using appropriate formats, including tables, flow charts, graphs and/or diagrams.
9	Science, Grade 9 (SNC1P)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.10:** Draw conclusions based on inquiry results and research findings and justify their conclusions.
9	Science, Grade 9 (SNC1P)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.11:** Communicate ideas, plans, procedures, results, and conclusions orally, in writing, and/or in electronic presentations, using appropriate language and a variety of formats (e.g. data tables, laboratory reports, presentations, debates, simulations, models).
9	Science, Grade 9 (SNC1P)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.12:** Use appropriate numeric, symbolic, and graphic modes of representation, and appropriate units of measurement (e.g. SI and imperial units).
9	Science, Grade 9 (SNC1P)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.13:** Express the results of any calculations involving data accurately and precisely.
9	Science, Grade 9 (SNC1P)	E. Physics: Electrical Applications	**Overall Expectation E1:** Assess the major social, economic and environmental costs and benefits of using electrical energy, distinguishing between renewable and non-renewable sources, and propose a plan of action to reduce energy costs.
9	Science, Grade 9 (SNC1P)	E. Physics: Electrical Applications	**Specific Expectation E1.2:** Propose a plan of action to decrease household energy costs by applying their knowledge of the energy consumption of different types of appliances (e.g. front-load and top-load washing machines; cathode ray tube [CRT] and liquid crystal display [LCD] computer monitors).
9	Science, Grade 9 (SNC1P)	E. Physics: Electrical Applications	**Overall Expectation E2:** Investigate, through inquiry, the properties of static and current electricity and the cost of the consumption of electrical energy.
9	Science, Grade 9 (SNC1P)	E. Physics: Electrical Applications	**Specific Expectation E2.1:** Use appropriate terminology related to static and current electricity, including but not limited to: ammeter, ampere, battery, conductivity, current, energy consumption, fuse, kilowatt hours, load, ohm, potential difference, resistance, switch, voltmeter and volts.
9	Science, Grade 9 (SNC1P)	E. Physics: Electrical Applications	**Overall Expectation D3:** Demonstrate an understanding of work, efficiency, power, gravitational potential energy, kinetic energy, nuclear energy, and thermal energy and its

			transfer (heat).
11	Physics, Grade 11 (SPH3U)	A. Scientific Investigation Skills and Career Development	**Overall Expectation A1:** Demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analyzing and interpreting, and communicating).
11	Physics, Grade 11 (SPH3U)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.10:** Draw conclusions based on inquiry results and research findings and justify their conclusions with reference to scientific knowledge.
11	Physics, Grade 11 (SPH3U)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.11:** Communicate ideas, plans, procedures, results, and conclusions orally, in writing, and/or in electronic presentations, using appropriate language and a variety of formats (e.g. data tables, laboratory reports, presentations, debates, simulations, models).
11	Physics, Grade 11 (SPH3U)	D. Energy and Society	**Specific Expectation D1.2:** Assess, on the basis of research, how technologies related to nuclear, thermal or geothermal energy affect society and the environment (e.g. thermal regulating units, radiopharmaceuticals, dry-steam power plants, ground-source heat pumps).
11	Physics, Grade 11 (SPH3U)	D. Energy and Society	**Specific Expectation D2.1:** Use appropriate terminology related to energy transformations, including but not limited to: mechanical energy, gravitational potential energy, kinetic energy, work, power, fission, fusion, heat, heat capacity, temperature and latent heat.
11	Physics, Grade 11 (SPH3U)	D. Energy and Society	**Overall Expectations F1:** Analyze 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.
11	Physics, Grade 11 (SPH3U)	F. Electricity and Magnetism	**Specific Expectation F1.2:** Analyze the efficiency and the environmental impact of one type of electrical energy production (e.g. from hydroelectric, fossil fuel–burning, wind, solar, geothermal, or nuclear sources) and propose ways to improve the sustainability of electrical energy production.
11	Physics, Grade 11 (SPH3U)	F. Electricity and Magnetism	**Overall Expectation E1:** Evaluate the impact on society and the environment of energy-transformation technologies and propose ways to improve the sustainability of one such technology.
12	Physics, Grade 12 (SPH4C)	A. Scientific Investigation Skills and Career Development	**Overall Expectation A1:** Demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analyzing and interpreting, and communicating).

12	Physics, Grade 12 (SPH4C)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.10:** Draw conclusions based on inquiry results and research findings and justify their conclusions with reference to scientific knowledge.
12	Physics, Grade 12 (SPH4C)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.11:** Communicate ideas, plans, procedures, results, and conclusions orally, in writing, and/or in electronic presentations, using appropriate language and a variety of formats (e.g. data tables, laboratory reports, presentations, debates, simulations, models).
12	Physics, Grade 12 (SPH4C)	E. Energy Transformations	**Specific Expectation E1.1:** Analyze an energy-transformation technology (e.g. wind turbines, refrigerators, telephones, steam engines, coal-fired electrical plants) and evaluate its impact on society and the environment.
12	Physics, Grade 12 (SPH4C)	E. Energy Transformations	**Specific Expectation B3.5:** Describe a variety of human activities that have led to environmental problems (e.g. burning fossil fuels for transportation or power generation; waste disposal) and/or contributed to their solution (e.g. the development of renewable sources of energy; programs to reduce, reuse and recycle).
11	Environmental Science, Grade 11 (SVN3M)	A. Scientific Investigation Skills and Career Development	**Overall Expectation A1:** Demonstrate scientific investigation skills (related to both inquiry and research) in the four areas of skills (initiating and planning, performing and recording, analyzing and interpreting, and communicating).
11	Environmental Science, Grade 11 (SVN3M)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.10:** Draw conclusions based on inquiry results and research findings and justify their conclusions with reference to scientific knowledge.
11	Environmental Science, Grade 11 (SVN3M)	A. Scientific Investigation Skills and Career Development	**Specific Expectation A1.11:** Communicate ideas, plans, procedures, results, and conclusions orally, in writing, and/or in electronic presentations, using appropriate language and a variety of formats (e.g. data tables, laboratory reports, presentations, debates, simulations, models).
11	Environmental Science, Grade 11 (SVN3M)	B. Scientific Solutions to Contemporary Environmental Challenges	**Overall Expectation F1:** Assess the impact on society and the environment of the use of various renewable and non-renewable energy sources and propose a plan to reduce energy consumption.
11	Environmental Science, Grade 11 (SVN3M)	F. Conservation of Energy	**Overall Expectation F3:** Demonstrate an understanding of energy production, consumption and conservation with respect to a variety of renewable and non-renewable sources.
11	Environmental Science, Grade 11 (SVN3M)	F. Conservation of Energy	**Specific Expectation F1.1:** Evaluate the impact of renewable and non-renewable energy sources on the environment and propose an environmentally friendly solution to reduce non-renewable energy consumption (e.g. a plan for broader use of hybrid cars or

			solar panels).
11	Environmental Science, Grade 11 (SVN3M)	F. Conservation of Energy	**Specific Expectation F3.3:** Explain the basic principles and characteristics of various types of renewable (e.g. tidal, geothermal, solar, wind) and non-renewable (e.g. coal, oil, gas) energy production and their impact on the environment.
11	Environmental Science, Grade 11 (SVN3M)	F. Conservation of Energy	**Specific Expectation F3.4:** Describe methods of energy production and conservation intended to reduce greenhouse gas emissions (e.g. energy production methods at the Prince Edward Island Wind-Hydrogen Village; charging higher prices for energy used during peak hours).
11	Environmental Science, Grade 11 (SVN3M)	F. Conservation of Energy	**Overall Expectation D3:** Demonstrate an understanding of the basic principles of energy production, with reference to both renewable and non-renewable sources and of various methods of energy conservation.
11	Environmental Science, Grade 11 (SVN3E)	D. Energy Conservation	**Specific Expectation D3.2:** Compare and contrast renewable and nonrenewable energy sources using criteria such as availability, cost and environmental impact (e.g. compare a fossil fuel and geothermal energy, using a graphic organizer).
12	Science, Grade 12 (SNC4E)	E. Electricity at Home and Work	**Specific Expectation:** Assess the social and environmental impact of electrical technologies, including the impact associated with the manufacture and disposal of electronic devices (e.g. the impact of electrical devices used in the health care field, such as pacemakers or respirators; the impact of energy generation needed to power electrical devices and appliances).